



# PEOPLE OF ALL TIMES

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## FIELD REPORT

January, 2014

Funded by:

**The *VELUX FOUNDATION* and KVUG**

## **Field report for the pilot project “People of All Times”**

*Submitted January, 2014*

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This is the report for the pilot project “People of All Times” funded by The VELUX FOUNDATION and Kommissionen for Videnskabelige Undersøgelser i Grønland (KVUG). Chapter 1 contains an executive summary of the project followed by chapter 2 which introduces the project. Chapters 3 and 4 give a thorough description of the Norse and Inuit field campaigns in 2012 and chapter 5 and 6 describes the campaigns in 2013.

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Archaeological sites in Greenland represent an irreplaceable record of extraordinarily well-preserved material remains covering more than 4000 years of human history. Climatic changes are leading to an accelerated destruction of this record, increasing the demand for both improved knowledge on the processes controlling preservation conditions and for the development of new methods for locating and managing threatened sites. In 2012/13 a pilot project was carried out in the Nuuk region to obtain a broader overview of the different climate induced threats to archaeological sites. The main purpose of the pilot project was to:

- develop and test methods for assessing the vulnerability of sites
- identify threats at different site types located in the different environmental settings of the Nuuk region
- undertake a survey on a shoreline that has previously not been investigated archaeologically
- find suitable sites for further studies
- provide experience and develop networks for planning and carrying out a large scale project building upon these results
- increase the public awareness of cultural heritage

The pilot project involved archaeologists and scientists from ten institutions and consisted of two field seasons in which:

- 30 archaeological sites were visited and described in terms of archaeological significance, state of preservation, and threats against preservation
- systematic boat surveys in an area not previously visited by archaeologists confirmed the presence of 21 sites that were previously only known from interviews
- one new site was discovered
- one new kitchen midden with exceptionally good preservation conditions for organic materials was discovered
- samples were collected for dating, DNA studies, analysis of state of preservation, and studies of degradation processes in the laboratory
- monitoring equipment was installed at four sites in the Nuuk fjord area in 2012, forming an east-west transect from the inner fjord near the inland ice, to the coastal area. Three of the sites were revisited in 2013 to download data

The pilot project has yielded many results that are useful for students and researchers as well as for cultural heritage managers. Work is still in progress and some results are still preliminary:

#### **Developed methods**

- a preliminary site record form to make a systematic description of the sites and threats was developed and tested at all visited sites



- building on the above, a common scoring system for visualizing the preservation and threats to sites was tested (chapter 5, table 5.4)
- a strategy for on-site monitoring was made and implemented; the equipment survived through the winter
- historical photos and documentation were successfully used to evaluate changes over time (e.g. fig 4.15 and 4.33), both in terms of erosion of sites and changes in vegetation
- documenting complex sites has been un-expectedly time consuming even with modern methods e.g. precision GPS measurements. This calls for testing of new surveying methods e.g. remote sensing, LIDAR scanning or Aerial photos from UAV (Unmanned Aerial Vehicles) in the future

#### **Assessment of threats and vulnerability**

- the state of preservation of wood, bone, skin, mussels and baleen was still good at several of the exposed midden fronts - but it needs to be evaluated how long time the materials have been exposed
- permanently frozen soil conditions were only found at two of the sites – both located in the inner fjord area (Sandnes and V52D, chapter 3.3 and 3.5)
- measurements of heat production from the archaeological material indicate that internal heat production may accelerate the thawing of the deposits
- the first monitoring data underlines that soil moisture is very important for the long term preservation of the archaeological remains, and that there can be significant variations between sites. For instance at Sandnes in the inner fjord the preservation seems to be controlled by dry and cold conditions (chapter 3.3), whereas the preservation of the midden at Kangeq in the coastal area is possibly controlled by wet and anoxic conditions (chapter 4.3)
- damage from roots on the archaeological remains was observed at several sites (e.g. fig 3.27) and furthermore increased vegetation cover made it difficult and sometimes impossible to locate sites (fig. 5.38 and 5.39). This shows that changes in vegetation need to be studied and monitored in more detail
- it was observed that small allotments have been established on some middens in the Nuuk area, showing that agriculture is no longer only taking place in southern Greenland
- coastal erosion of sites seems to take place not only on the outer coast, but also on sites at the inner coast and the inner fjord
- erosion from freshwater was observed at several sites indicating that e.g. erosion caused by snow melt in the spring may be important
- at the sites visited both in 2012 and 2013 no recent damage from visitors was documented

**Dissemination and local involvement**

- the project has involved two Inuit and two Danish students in the fieldwork. Two of these are writing their masters thesis based on data from the pilot project and another MSc-student at the School of Conservation will begin her thesis work in the spring of 2014 based on some of the samples collected.
- interviews with local residents and local participation in fieldwork have increased the knowledge of local sites and the connected myths and greatly increased the effectiveness of fieldwork.
- dissemination of the results at meetings in Nuuk, Qeqertarsuatsiaat and Ilulissat has been made to increase the local knowledge of and interest of cultural heritage.
- The results of the project have been disseminated in 3 popular articles, 2 TV interviews and 8 public presentations.

The results and experiences of the pilot project combined with the establishment and forming of an interdisciplinary network have led to the formulation of the large-scale research project: REMAINS – REsearch and Management of Archaeological sites IN a changing environment and Society. An application describing the REMAINS project was sent to the VELUX Foundation in July 2013. Furthermore, the project has led to arrangement of the International Polar Heritage Committees conference “*The Future of Polar Heritage*”, which is jointly hosted by the Danish and Greenlandic National Museums in Copenhagen 25-28 May 2014.

## Introduction

Current and future changes in the Global climate may lead to an increased natural decay of heritage sites in the Arctic landscape: Sea level rise, and resulting increased erosion, poses a severe threat to coastal heritage monuments. Increasing temperatures may cause longer periods of soil thaw and may change the vegetation patterns. Changing precipitation patterns can have multiple effects – more precipitation may cause increased erosion of sites, while less precipitation may cause drying of archaeological layers which may accelerate deterioration of preserved organic materials.

The impacts of Global climate change on archaeological sites in Greenland are already pronounced. The majority of sites are from past maritime based cultures and are thus located at the coast where the rate of erosion has increased during recent decades. There is a need to document these effects and get an overview of where the problems are most urgent in order to prioritise future excavations.

This can only be done through a great effort of documentation and research activities. For that reason The Greenland National Museum has now established research collaboration on heritage issues with several Danish academic institutions and The Greenland Climate Research Centre, who all participate with some of their leading researchers within the field. The aim is to provide the best possible basis to elucidate the effect of current climate-related issues concerning cultural heritage sites in Greenland, in order to make it possible for the Greenland National Museum to determine when to optimize the preservation conditions and when archaeological rescue excavations are necessary to save information from the past that would otherwise be lost.

## Approach

Mapping the state of preservation and threats for all cultural heritage sites in Greenland is near to impossible, so a multistep approach is being used. The pilot project described in this report has been carried out to get a first impression of the conditions and threats at different types of archaeological sites in the Nuuk region, to get some experience with different methods, to pin point the most urgent research questions, and to initiate collaboration between the relevant institutions. Based on the experiences from the pilot project a larger research application has been written under the name REMAINS (REsearch and Management of Archaeological sites IN a changing environment and Society).

The approach of the pilot project was a combination of surveys and longer site visits. For each site all available information from previous visits and excavations was collected in order to evaluate the previous state of preservation of the site. During site visits a systematic description of current preservation, research potential and possible threats was carried out, and compared with the previous documentation. Small excavations and drillings were carried out at some of the sites to obtain material for dating, DNA studies, analysis of state of preservation, and studies of degradation processes in the laboratory. Monitoring equipment was installed at some sites to get knowledge

about the environmental conditions. All information was combined to give a preliminary evaluation of the research potential and threats, and each site was given a “risk score” accordingly.

For practical reasons the field work was carried out by three teams: An archaeological team that focused on Norse sites in the Ameralik fjord area, an archaeological team that focused on Inuit sites around Qeqertarsuatsiaat and at Kangeq, and a third team of “specialists” that focused on sampling and monitoring at selected sites in both areas. Field work took place in both 2012 and in 2013, where the work in 2013 built on the experiences from the first year. The results and observations are described separately for the Inuit and Norse sites in the following 4 chapters, but as far as possible the same description methods and terminology has been used by all teams.

### Site selection criteria

The field work was preceded by a careful process of site selection based on a number of site selection criteria fitting the research agenda. The sites were selected from following criteria:

- Sites with presence of excellent preservation of organic material recorded during earlier archaeological investigations, ensuring both case studies of best case preservation scenarios as well as temporal and conditional baselines against which to assess our new findings and measurements.
- Sites with presence of frozen soils/permafrost recorded during earlier archaeological investigations reinforcing the above conditions for optimal preservation.
- Sites located in different environmental/climatic landscape niches, i.e. site location ranging from the inner parts of the fjord on the rim of the Greenland Ice Sheet to the extreme outer coastal region; sites with a location from just above sea level to sites representing settlement at the highest normal locational altitude.
- Sites that were logistically viable to visit within the pre-project funding, and from where it would be relatively easy to retrieve monitoring data and equipment during the project period.
- Sites that would offer the best opportunity for dissemination, i.e. both in terms of outreach to the local community and in terms of tourism potential.
- Sites where we could expect to retrieve multiple data with least impact/disturbance of the ruins.
- Sites with research potential not only in terms of site preservation, but also with potential for addressing cultural historical and environmental research agendas of an upcoming multiple disciplinary project.

The pilot project focused on the Nuuk region:

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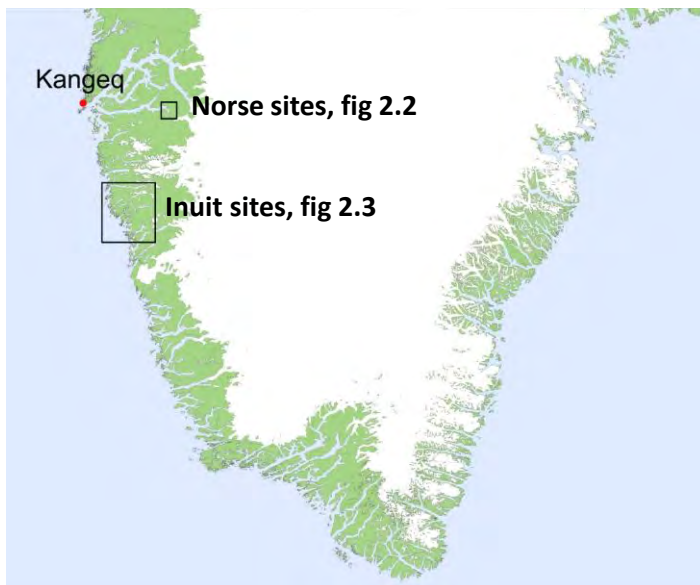


Figure 2.1 Overview of areas visited



Figure 2.2: overview of Norse sites visited during the pilot project. The sites are all described in more detail in chapters 3 and 5





**Figure 2.3: overview of Inuit sites visited during the pilot project. The sites are all described in more detail in chapters 4 and 6**

### Participating institutions

Greenland National Museum and Archives  
 Greenland Climate Research Centre  
 National Museum of Denmark

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Danish Museum of Natural History, University of Copenhagen  
Research Centre for GeoGenetics, University of Copenhagen  
Research Centre for Permafrost Dynamics in Greenland (CENPERM), University of Copenhagen  
University of Aberdeen

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## 3.1

## NORSE SITES 2012, INTRODUCTION

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### 3.1 Introduction

In 2012 field work was carried out in the Ameralik Fjord on Norse heritage sites. The aim was to get an overview of the different climate induced threats to archaeological sites and install monitoring equipment, as well as to assess the state of preservation and research potential of selected sites. The field work was carried out from 18.-31. August 2012.



Figure 3.1: Sites inspected during the 2012 Norse field work.

#### 3.1.1 Summary of results:

The investigations of the 2012 field season included inspection and threat assessment of 4 Norse heritage sites (V51, V35, V53d, V52a – fig. 3.1). The results for each site are described in chapters 3.2-3.6, including a standardized site description scheme at the end of each chapter. A preliminary summary of the threats and state of preservation at each site is presented in Table 3.1 (see Table 5.4 in chapter 5 for a more detailed description of the evaluation method). Of these sites, V51 represents the most threatened site (as summarized in the Preservation/Threat index far right in Table 3.1).

**Table 3.1: Preliminary evaluation of the state of preservation and threats to the sites**

Site:	Preservation:	Erosion threat	Human Impact	Vegetation	Permafrozen	P/T index
Kilaarsarfik/V51 - features <sup>1</sup>	3	2	1	3	No	(3/6) 18
Kilaarsarfik/V51 - midden <sup>1</sup>	3	2	2	2	Partly	(3/6) 18
V35 - features <sup>1</sup>	3	0	0	1	No	(3/1) 3
V35 - midden <sup>1</sup>	2	0	0	1	No	(2/1) 2
V53d - features	3	0	0	2	No	(3/2) 6
V53d - midden	2	0	0	2	No	(2/2) 4
V52a - features <sup>1</sup>	3	0	0	0	Unknown	(3/0) 0
V52a - midden <sup>1</sup>	2	0	0	0	Yes	(2/0) 0-
<b>Accumulated threat:</b>	-	4	3	11	-	-

0 = none/no, 1 = low/little, 2 = medium/some, 3 = high/excellent, - = lacking  
<sup>1</sup> partly excavated/eroded prior to observation; <sup>2</sup> Midden completely eroded prior to observation

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Test excavations were carried out at V51, V35 and V53d. Original documentation and finds from the excavations are kept at the National Museum of Greenland, while samples for preservation research and for DNA analyses are kept at the National Museum of Denmark, and the Centre of Geogenetics, Natural History Museum of Denmark, respectively. Monitoring equipment was placed at V53d and V51, where data will be downloaded in 2013 or 2014.

### 3.1.2 Norse Team members:

**CKM : Christian Koch Madsen, The National Museum of Denmark**

**ANLE : Ann Eileen Lennert, Illimarfik/Naturinstituttet**

**MWP : Mikkel Winther Petersen, Center of GeoGenetics, Copenhagen.**

**AK : Aart Kroon, Copenhagen University, Institute of Geography and Geology.**

**ABM : Anders Bjørn Møller, Copenhagen University, Institute of Geography and Geology.**

**MM: Morten Meldgaard, The Natural History Museum of Denmark**

**HMA: Henning Matthiesen, The National Museum of Denmark**

**JHO: Jørgen Hollesen, The National Museum of Denmark**

**PL: Paul Ledger, University of Aberdeen.**

### 3.1.3 Field Diary

**Aug. 18. :** Arrival from Denmark of Norse Team member HMA and Inuit team member Peter Toft. After a lunch meeting with CKM, ANLE, and project coordinator Pauline K. Knudsen, we went to B43 - accommodation for the research team in Nuuk provided by the National Museum of Greenland (NKA) – to start re-packing the equipment shipped from DK, divide food on the different depots, and making a shopping list for the remaining missing equipment. We stopped packing 17.00.

**Aug. 19. :** AK and ABM arrived from Denmark, and we met up for a lunch meeting at the NKA 12.00. Afterwards we all returned to B43 and continued packing and doing the last shopping. We finished c.18.00 and had dinner at B43.

**Aug. 20. :** Norse Team members CKM, ANLE, HMA, AK, ABM and PL met up 08:30 at B43; we were scheduled to depart for Kilarsarfik/Sandnæs by boat from the colonial harbor 09:00. We hauled the boxes and equipment to the harbor and, as soon as the boat from Illimarfik arrived, on board the boat. The heaviest equipment was left in B43 to be heli-lifted to Kilarsarfik/Sandnæs with



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the remaining Norse Team members, MM, MWP, and ANLE, who were scheduled to arrive at Kilarsarfik/Sandnes on the morning of Aug.21.

CKM, PL, HMA, AK, and ABM sailed from Nuuk 09.15 and arrived at Kilarsarfik/Sandnes c.10.30 after a pleasant trip in through the Ameralik fjord. We made a quick landing and off-loading so that the boat could leave before the tide got too low, a constant logistical problem as the head of the fjord is extremely shallow and only sailable at high tide. We then established our basecamp at Kilarsarfik/Sandnes and started sorting equipment. Afterwards, we began identifying the myriad of trenches that over the years have been made, and have been left open or only partially backfilled, at Kilarsarfik/Sandnes. The only partial backfilling also made it easy to identify the 1984 trench B, where we had planned to do our investigations and set up the monitoring equipment and climate station; having found the 1984 trench B, we started clearing a the dense vegetation around it, and DGPS surveyed most of the trenches S of the ruins. We stopped working around 18.30.

*Weather:* an extremely beautiful and calm day with bright sunny skies and day temperatures close to 20°C.

**Aug. 21. :** We got up at 07:00 to a calm mild morning with the sun already beginning to burn off the fog cover hanging low over the fjord and mountains. Norse team members MM, ANLE, and MWP were scheduled to arrive by helicopter at Kilarsarfik/Sandnes between 08:00-09:00, drop off the heavy climate station equipment, and then pick up the Norse Team members already at Kilarsarfik/Sandnes, leaving only AK and MM to hike up the Austmannadal; accordingly, the Norse team members at Kilarsarfik/Sandnes were packed and ready to leave 08:00.

However, because of heavy fog in Nuuk (and a miss-landing close to V52 because of faulty coordinates) the heli-lift was delayed until 13:45. Finally having landed at Kilarsarfik/Sandnes, we quickly shifted the equipment from the helicopter to make room for the remaining Norse Team members; luckily, the pilot agreed to fit in an extra person so that AK and MM would not have to hike up the Austmannadal at such late hour. First circling Kilarsarfik/Sandnes to get a series of aerial photographs of the site we flew up the Austmannadal securing aerial photographs of the valley and Norse ruin groups along the way.

C.14:30 we landed in the mire below V53d, got the equipment off the helicopter, and then set up camp. Immediately afterwards we set about finding the ruins registered by Roussell, identifying the excavated areas, coring the midden for a suitable test trench, and trenching the mire SW of the ruin group for suitable peat deposits to do pollen sampling. We finished working around 18:30.

*Weather:* All day clear sunny skies and high temperatures with a cooling fjord wind coming up through the valley. During the night we had -1°C.

**Aug. 22.:** We had breakfast 07:30 and then did a tour of the V53d ruins. Following, we all started working on our different projects: AK DGPS-surveyed the ruins, trenches, and core holes, ANLE and CKM started excavating trench P I, MWP and MM cleaned sections P II and P III in one of the old trenches left by Roussell, HMA started taking measurements from section P III, while MWP

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DNA-sampled section II, afterwards HMA moved to P II, PL dug a trench in the mire to retrieve a pollen sample, in which ABM later did measurements; ABM opened a small trench in ruin 1 room XVII (P IV), relocated the old floor layer, which was sampled for DNA, preservation, and datable material. We ended working c.19:30.

*Weather:* all day clear skies and sunny weather with a mild fjord wind coming up the valley.

**Aug. 23.:** We had breakfast 07:30 and then started working on our different tasks; CKM, ANLE, and PL excavated all day (until c.19:30) in trench P I; next to this, HMA opened trench P V in order to install monitoring equipment. AK DGPS-surveyed the last features, ABM put up additional monitoring equipment, while MWP and MM packed for the hike out of the Austmannadal. 13:30 AK, MWP, MM, and ABM started hiking out the valley for V51/Kilarsarfik carrying with them all the equipment and samples that could be fitted into the backpacks.

*Weather:* All day light cloud cover with a brisk breeze from the fjord.

**Aug. 24.:** After breakfast, c.07:30. ANLE, CKM, and PL continued excavating trench P I; however, the light rain that had started during night made sieving impossible; instead we had to carry the plastic wash bowls to the stream, where it could be water-sieved. This proved very efficient but we would have to stop excavating as we would, in the end, lack soil for backfilling. Finishing excavation at the top of structural collapse/wall, we then documented the sections, and backfilled the trench. Meanwhile, HMA finished installing and testing the monitoring equipment in trench P V. C.17:00 hour HMA, ANLE, PL, and CKM had finished closing down the investigations and camp and headed out of the Austmannadal with the remaining equipment. Visiting V53c on the way, as well as registering a “bear trap” and shooting blind on the way, we made it to a flat camp site around 21:00.

Meanwhile, Norse team members AK, MM, MWP, and ABM continued N over the mountains towards V51, stopping by V52a, and made it to the Kilarsarfik/Sandnæs basecamp in the afternoon, spending the rest of the day resting up after the demanding hike, which took about 14 hours with 20-30kg's equipment and samples.

Note on hiking through the Austmannadal: Because of the changed flow of the central river in the valley, it is possible to cross it at several points, and hiking along the S side of the river or on the plain on the valley floor now provides a much easier route than hiking on the shelf that Roussell and the Norse Team did.

*Weather:* All through the morning and noon light rain and low clouds, from 13:30 the skies brightened somewhat and it stopped raining; instead, the quiet rain was replaced by a brisk fjord wind coming up the valley.

**Aug. 25.:** ANLE, PL, HMA, and CKM left camp c.09:00 continued down through Austmannadal. Shortly after inspecting V53a and approx. over V53, we started heading obliquely over the mountains as to avoid the dense scrub; this proved a good route taking us through a pass at c.300m

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elevation. We made it to V52a around 17:30, where upon finding frost in the surrounding mire at only 50cm depth, we decided to camp for the night, in order to investigate the site properly the next morning. PL got a good pollen sample from the mire.

Meanwhile, ABM, MM, MWP, and AK was working at Kilarsarfik/Sandnæs emptying the 1984 trench area B, coring for frost and preservation, and identifying the remains of the church.

*Weather:* All day light cloud cover and a chilly fjord wind, but no rain.

**Aug. 26.:** ANLE and CKM spent the morning trying to locate the remaining ruins of V52a; however, we did not manage to find all of them. Meanwhile, HMA made his investigation and measurements in the trench where PL had retrieved his samples the previous day. Around 11:30 ANLE, CKM, PL, and HMA set out for the final hike to V51, quickly meeting ANLE's husband, Kunuk, and children that had been visiting the Kilarsarfik/Sandnæs basecamp during the weekend. ANLE went with Kunuk, who had offered to pick us up in his small rubber dingy at the tip of the point just S of Kilarsarfik/Sandnæs. PL continued along the coast, while HMA and CKM went on to find and register the next ruin group, going to the view point about the destined point, from which they thereafter went down and were picked up by Kunuk. The entire team was assembled in base camp Kilarsarfik/Sandnæs around 14:30.

AK, MM, ABM, and MWP worked throughout the day on preparing for the setup of the weather station and sampling of the site.

*Weather:* All day scattered clouds, sunshine, and a brisk fjord wind.

**Aug. 27.:** The entire Norse team stayed in the basecamp at Kilarsarfik/Sandnæs working on their various tasks; MWP cored for DNA-samples, AK DGPS-surveyed various features and trenches, HMA tested for the extent and depth of frost in the S part of the midden, ABM prepared modern test samples to be inserted in section P I, ANLE and CKM reconnoitered the beach in front of the registered Saqqaq/Dorset site at Kilarsarfik/Sandnæs (finding no additional tools/debris), updated samples and finds lists, cored around the church to search for the extent of previous vegetation, and finally the green patch of slope E of the river that suggests the presence of structures (yet finding no evidence of such).

Around 15:00 team member JHO arrived with boat, replacing MM which had left with Kunuk early on the same morning to avoid the fjord wind. Together with ABM and AK, JHO immediately started setting up the climate station.

*Weather:* All day bright, sunny, and clear skies and only a light fjord wind.

**Aug. 28.:** 09:15 ANLE and CKM departed from the base camp at Kilarsarfik/Sandnæs heading for V35; we chose to hike along the E side of the valley to search for an intermediate ruin group along the way; spending only about half an hour looking for the ruins of the latter and not finding them, ANLE and CKM continued onwards, hiking over a small valley to view the landscapes and

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vegetation of such adjoining small side valleys. We arrived at V35 shortly after 12:30 and after lunch we started excavating section P I in Roussell's old midden trench where McGovern et al. 1981 had cut back Roussell's section.

Meanwhile, the team members remaining at Kilarsarfik/Sandnæs continued setting up the climate station and doing various measurements/sampling. MWP and PL went to V52 to look for the mire in which Iversen's once recorded a landnám layer, however, without finding a mire with such a horizon. They did instead manage to retrieve a good regional sample from a mire close to the view point S of Kilarsarfik/Sandnæs.

*Weather:* All day bright, sunny, and clear skies and only a light fjord wind.

**Aug. 29.:** ANLE and CKM continued excavating trench P I at V35; around 11:00, AK, MWP, and HMA arrived from Kilarsarfik/Sandnæs from where they had departed around 09:15, i.e. the hike along the trail running on the eskers from V51 takes no more than 1 hours 45 minutes with light load. The trench P I was finished, so that HMA could do his measurements, while AK surveyed the ruins, lake shore etc.

Around 16:30 we had closed the excavation and camp and were ready to leave V35 for V51 and taking the hiking path centrally in the valley, we reached Kilarsarfik/Sandnæs just after 18:00, i.e. had completed the trip in about 1,5 hour going downhill. Back at camp, JHO and ABM had been working all day to set up the climate station and had nearly finished.

*Weather:* Until about 15:00 bright and sunny skies, thereafter a faint trace of clouds and a cooling wind from the ice.

**Aug. 30.:** The entire Norse Team worked at Kilarsarfik/Sandnæs to wrap up the different investigations: ANLE and CKM did test trenches in the excavated structures looking for preservation for DNA-sampling, JHO, ABM, and AK finished setting up the climate station, ABM and CKM backfilled and closed the section P I into which the final sensors had been placed, PL and MWP took a pollen sample from the mire E of the river, the camp was packed, ANLE, CKM, and AK cored the area in front of the church, AK and CKM surveyed the remaining features and trenches, finishing the last work on Kilarsarfik/Sandnæs around 20:30.

ANLE was picked up by boat around 15:00.

*Weather:* First calm and cloudy, but just around 12:00 a dry mild wind started blowing from the Ice. It did so for hours without reaching any significant force and by 18:30 the wind subsided completely.

**Aug. 31.:** The Norse Team got up at 07:00 and started closing the rest of the camp and clean up after us and then hauled the boxes to the beach, where we were schedule to be picked up by boat 10:00. The boat arrived 09:45 at falling tide, which meant that the equipment first had to be sailed to the boat in a small rubber dingy doing 6 trips before the Team Members could go on board.

## 3.1

## NORSE SITES 2012, INTRODUCTION

## 'PEOPLE OF ALL TIMES' - FIELD REPORT

Norse team members CKM and MWP were then sailed to Nuuk, arriving there around 12:30. The remaining Norse Team members – PL, ABM, AK, HMA, and JHO – continued on to Grædefjorden to rendezvous with the Inuit team.

*Weather:* All day very calm, cloudy and mild weather.



## 3.2 Tummerallip Tasersua/V35

### 3.2.1 Landscape and Geomorphology



**Fig.3.2** Ruin group V35 at the western end of lake Tummerallip Tasersua seen towards the NE. Ruins 1-3 are located just above the patch of grassland on the far side of the river and lake, ruins 4-5 on the top of the lower ridge running parallel with the lake (*photo: C.K. Madsen 2012*).

Ruin group V35 lies at the extreme western end of the large lake Tummerallip Tasersua (fig. 3.2) c.5km NNE of Kilaarsarfik/Sandnes. It lies at an altitude of approximately 230 m (according to map). Along a short stretch on the northern banks of the lake as it narrows in its western end is a small stretch of former lakebed or mire now vegetated by lush grass that stands to a height of about a meter or so. This is the relict homefield of the Norse site; the ruins lie just above the patch of grassland on the lower, more drained, part of the slope, also surrounded by grassland. The river flowing past the site eventually turns north and continues northwards into the wide valley between Kilaarsarfik/ Sandnes and Kapisillit.

The tiny homefield reflects the small stature of the ruin group or farmstead with its only 5 registered ruins, all of them rather small of size. The surrounding landscape does not offer much in terms of decent pastureland, the vegetation everywhere being dominated by heath or willow scrub in wetter

and more sheltered areas. Noting the poor vegetation, the small homefield and ruins, V35 is likely a satellite farmstead, or perhaps even a shieling, under the Kilaarsarfik/Sandnes church farm.

### 3.2.2 Prior Observations and Investigations

Although its presence was early known, investigations at V35 prior to Roussel's 1937 excavation were minimal: Besides cursory mention, the ruins are described by E. Thorhallesen in 1776; C.L. Giesecke in 1808 also visited the site, among other things noting the presence of a stone built bridge over the river flowing from Tummerallip Tasersuaq and a nearby wall (Giesecke 1910;156). Roussel (1941;74) found the bridge not nearly as imposing in 1937; like Roussel, we observed and crossed the river via four large flat stones positioned on a line across half of the river. We did not notice any stone wall by the river bank, as mentioned by Giesecke, but we were not searching for it either.

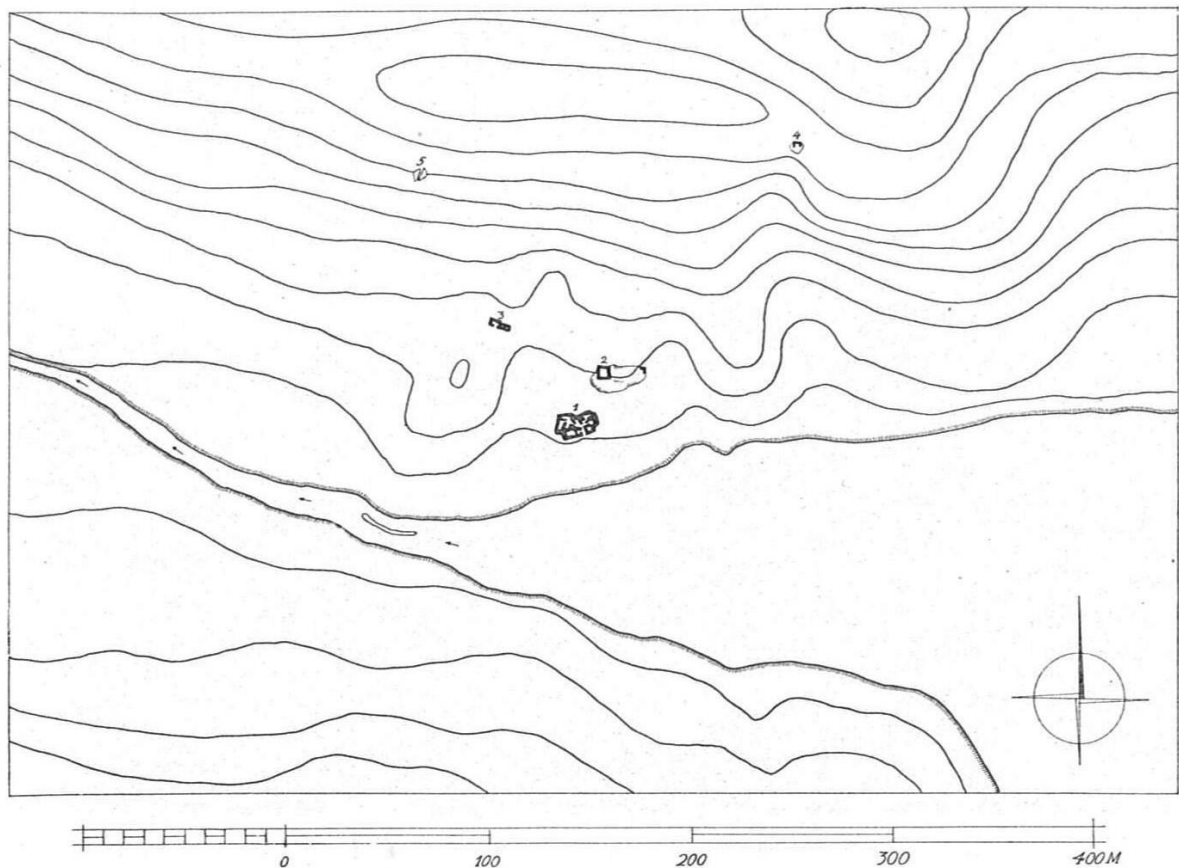


Fig.3.3 Roussel's survey plan of the V35 ruins. The "stone-bridge" crosscuts the river where the small elongated island is in the river (after Roussel 1941;51).

Roussel excavated the ruins 1 and 3 in 1937 (Roussel 1941;73, 164), exposing a small centralized dwelling with mediocre preservation of organic material. Roussel also test trenched the midden on

the slope below the dwelling – a trench that was not backfilled and is clearly visible (fig.3.4) – recording frozen deposits and excellent preservation (Ibid.;167).

In 1981, the American team McGovern *et al.* made a small test trench along the eastern side of Roussell's midden trench; the trench measured 1x0,5m long and in it they also recorded excellent preservation with well-preserved bones, twig layers, sheep/goat pellets, dung, and frozen soil at a depth of 80-90cm below the modern vegetation surface (unpubl. field report, NKA archives no. 33-011).



Fig.3.4. Photograph of V35 from 1937; only slight vegetation changes are visible when compared with a present photo, cf. fig.3.2 (after Roussell 1941;fig.50).

### 3.2.3 Archaeological investigations and evaluation of state of preservation

Today, the ruins of V35 appear very distinct and stable, only slight erosion processes apparently impacting the ruin; however, dense willow scrub have settled in the rooms of ruin 1 and in ruin 3, likely destroying whatever floor layers that might have been left exposed after Roussell's excavation. Comparing Roussell's overview photograph with our from 2012 (fig.3.2 and 3.4), the increase in scrub vegetation in the environs of the site seems moderate; the excavated rooms, however, offering great growing conditions for scrub, wherefore they have expanded greatly there.



Based on the 1981 investigation, the Norse Team of 2012 had decided to place our trench close the 1981 test trench in order to disturb the midden as little as possible. Hacking away at the dense grass root layer and deturfing with spade, we opened a trench 60x40cm in the NE corner of Roussell's trench; note that the 1981 trench was not immediately identifiable and bringing only a folding spade, we had to select our trench also from where it look must doable and based on the 1981 description. Our trench proved to overlap the 1981 trench approx. in the middle (fig.3.5). We then continued to excavate by trowel; the upper obviously disturbed layers were not sieved, neither was the 1981 backfill [02], but as soon as we found undisturbed strata, we began sieving the removed soil in a sieve with 4mm mesh. All finds were recorded and bagged. The ensuing contexts were photographed and the N-section finally drawn in 1:10. The trench was excavated 28.-29.-08.2012.

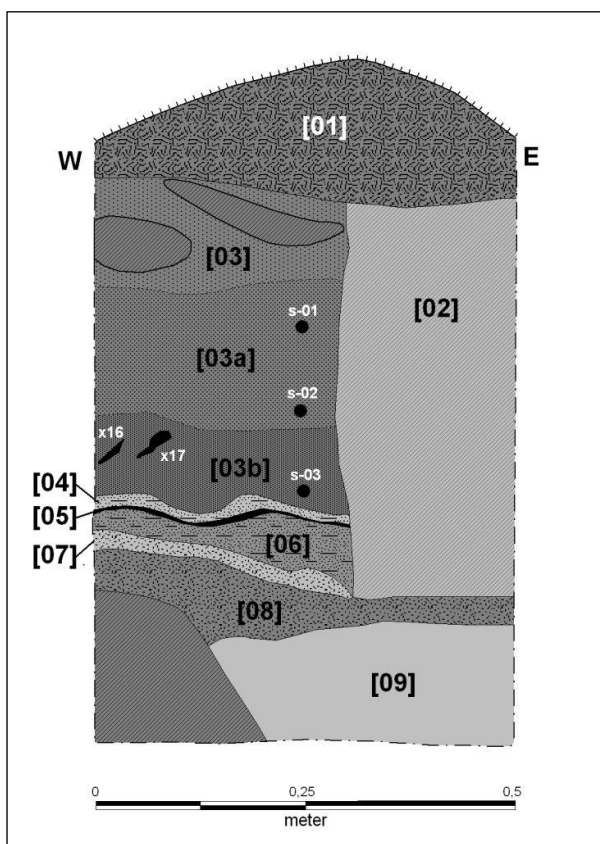


Fig.3.5 Section drawing of V35 P I

Horizontal control is extremely hard to attain in a trench as small as the one carried out at V35; although we did notice a change in the soil colour and composition, layers [03a-03b] were not separated during excavation, but only during recording of the section. This means that the finds referred to [03] are somewhat mixed, as the lower layers seemed more intact midden, yet somewhat mixed, deposits, while the upper stratum was definitely mixed, likely Roussell's spoil heap remains.

From [04] the horizontal stratigraphy was definitely undisturbed, signifying that Roussell never carried the excavation to the natural deposits. We carried the excavation some way into the natural

deposits to ensure that there were no further cultural horizons, and to see if frozen soil was to be found further down.

**Table 3.2 V35 midden layers**

Cont.	Description	Interpretation
[01]	Vegetation layer w. roots	Modern vegetation layer
[02]	Dark brown silt w. many cultural inclusions.	1981 backfill
[03]	Mixed brown to red sandy silt with inclusions of stones, charcoal, bones, small partially decomposed pieces of round wood	Roussell 1937 spoil heaps sliding back into the midden trench
[03a]	Same description as [03], but with more partially humified turf, boundary to [03] vague	Roussell 1937 spoil heaps sliding back into the midden trench (not separated during excavation).
[03b]	Same description as [03a], but with more clear layers and less disturbed than [03a]	Disturbed midden deposits
[04]	Greyish yellow clay with inclusion of bone, specks of charcoal, and single sheep/goat pellet	Undisturbed layer, natural sealing layer?
[05]	Black fine sand and charcoal layer with many burned, or scorched, sheep/goat pellets, twigs and branches and bones.	Burned layer, landnám?
[06]	Greyish brown to reddish brown fine sandy silt with almost no cultural inclusions, clear boundary to [05]	Old vegetation surface with slight cultural material trodden into it.
[07]	Mottled greyish brown to red sandy silt	Natural deposit
[08]	Mottled light grey to black clayish silt	Natural deposit
[09]	Light grey silty clay	Natural deposit



**Fig.3.6** The top of [05], a burned layer that produced a quite large quantity of burned or scorched wood, sheep/goat pellets, and a few bones. It is the first definite and undisturbed cultural deposit, possibly a landnám layer. To the right, the backfill of the 1981 trench has been emptied out (*photo: C.K. Madsen 2012*).



**Fig.3.7** The top of layer [06]: it is the likely vegetation surface and layer on which the Norse settled; slight cultural material has been trodden into the top of the layer surface, which also included some beetle shells (*photo: C.K. Madsen 2012*).



**Fig.3.8** Burned or scorched sheep/goat pellets found in layer [05] (*photo: C.K. Madsen 2012*).

The excavation of V35 trench P I produced 22 x-numbers (113 bones in total); 3 ring samples and a bulk sample were taken from the section. The pellets have been sent for pollen analysis.

### **Summary of archaeological work**

The excavation of V35 P I showed that the midden does still have good preservation producing well-preserved bones, pellets, and other organic material. It showed, however, that the richness of such organic material is not as pronounced it seems from the 1981 investigation (unpubl. field report, NKA archives 33-011), suggesting some decomposition of, at least the upper, layers. Neither did we during the 2012 excavation find the frozen soils described in both 1937 and 1981 investigations.

The willow scrub encroaching on the ruins have probably already done much damage to any remaining floor layers in the rooms of the dwelling (ruin 1); the ruins otherwise seem stable and largely unthreatened by any other factors (slight erosion of the northernmost wall of ruin 1 is visible).

**Research potential:** The excavation of V35 P I clearly demonstrated that Roussell's midden trench was not excavated to the bottom and that there is still good preservation, i.e. small scale excavation of the midden could produce a sizable archaeo-faunal material, pollen evidence of feeding habits, artefacts, phasing of site occupation etc., i.e. supplementing Roussell's 1937 excavation of the dwelling.

### Outreach

The site has outreach potential as it placed along an easy hiking trail, the ruins are visible, and offers a good nearby camping ground. Posting a sign or other form of description of the site would be the only mitigation required to make the site more comprehensible to visitors.

### 3.2.4 Environmental monitoring

No permafrost was encountered in the excavation pit. In a small ditch south of the excavation permafrost probing was made by pressing a walking stick down to 80 cm depth below the terrain surface and installing a temperature probe. The temperature was 2 °C and no permafrost was found. There wasn't carried out a systematic probing at the site.

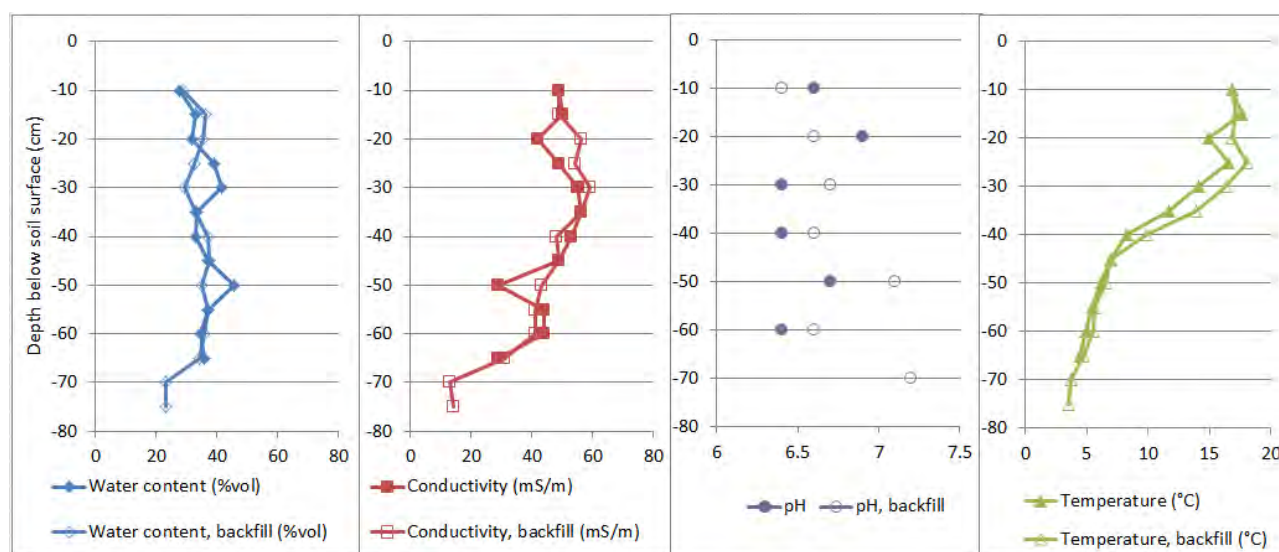
Field measurements of the soil water content, conductivity, pH and soil temperature were made in the excavated profile (fig 3.5) and the results are given in fig. 3.9. Measurements were carried out both in the undisturbed soil layers and in the 1981 backfill (context [02]). In the undisturbed soil the different soil layers may be described as: -10 to 0 cm: vegetation layer; 0-5 cm: root felt [01]; 5-10 cm: mixed organic layer [03 top], 15-40 cm: compact organic layer with well preserved bone [03]; 40-41 cm: thin clay layer [04]; 41-42 cm: fire layer [05]; 42-50 cm: dark silty layer with a few cultural inclusions [06]; 50-60 cm: varying silty layers [07-09].

## 3.2

## TUMMERALLIP TASERSUAQ

## V35/64-V2-III-521

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**Figure 3.9: Environmental measurements in testpit at V35. Water content and conductivity was measured in the outer 5 cm of the profile with a WET probe from Delta-T instruments, pH and temperature was measured with a SS37 probe from IQ instruments. Note that measurements in open soil profiles are not necessarily representative for measurements in the undisturbed parts of the midden, and for instance the measured soil temperature may be strongly influenced by direct sun on the excavated profile.**

Soil samples were taken at 20, 30 and 40 cm depth for future analyses of porosity and organic content in the laboratory. A wood sample penetrated by roots was taken as well.

No modern samples and no monitoring equipment was left at V35.

### 3.2.5 Summary of observations

The observations made at V35 are summarized in Table 3.3.

Table 3.3 Summary of observations and results from V35	
Site	V35
Site name	Tummeraliip Tasersuaq
Museum ref	V35/64-V2-III-521
Date visited	28-29/08/2012
<b>Location</b>	
N/W (from handheld GPS, ddd.mm.mmm; WGS84)	N 64°17.196' W 050° 09.136'
Altitude (from map)	234 m
Surroundings	Situated on south slope of ridge, 10 m from lake shore
<b>Description</b>	
Site	Norse farm with 5 buildings and a midden
Midden dimensions	Approx 8x15 m
Maximum depth	100-150 cm
Vegetation	Ruins covered with grass, horsetail and some willow. Midden covered with grass and a few horsetail

Outline	No distinct front on midden
Photos	No 3698-3702
<b>Measurements during visit</b>	
Thaw depth	No frozen layers found, but it cannot be excluded that the bottom of the midden is frozen where the midden is thickest
Soil temperature	4-18 °C for soil profile in the sun, one drilling down to 2 °C
Water content	30-40 %
Conductivity	40-60 mS/m
pH	6.5-7
Other	
<b>State of preservation</b>	
Buildings/site structure	Excavated, stable.
Disturbance	Rooms excavated. 4x4 m and a trench excavated in midden.
Midden contents:	
Volume excavated during visit	Testpit 0.5x0.4x0.8 m at Rousells excavation in midden
Animal droppings	Several in fire layer, two out of the firelayer
Textile	None found
Wood	Found, poorly preserved. One piece was penetrated by a horsetail rhizome
Bone	Many found, well preserved, slightly dry/cracked in the upper layers
Turf	Degraded
Other	Beetles that seem well preserved. Charcoal.
State of preservation, in brief	Medium
<b>Samples taken during visit</b>	Soil samples, one wood sample, sieve residue from context 5 (firelayer)
<b>Research potential</b>	
Undisturbed remains?	Main part of midden is undisturbed
Density of finds	Found approx 50 bones in excavated volume (0.16 m3)
Areas of research	Zoo-archaeology, building archaeology
Outreach potential	Fairly high: the ruins are quite visible and lie on the hiking trail between Sandnæs and Kapissillit
<b>Threats (ongoing/expected)</b> - 1st estimate based on brief visit	
Erosion from water/ice, including erosion from waves, boat-traffic, and freshwater	No erosion from water was observed
Other erosion (wind, animals, visitors)	Slight wind erosion in places, but nothing serious. A few stones have been moved by tourists (to build fire places)
Vegetation, roots	Horsetail rhizomes may penetrate objects in midden, but at present the population is low. The effect of willows on the walls is unknown.
Drainage	Natural drainage is rather high as the midden is lying on a steep slope with coarse sand underneath

## 3.2

## TUMMERALLIP TASERSUA

V35/64-V2-III-521

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Melting, heating	Most (all?) of the midden is already thawed
Soil movement (including creeping, cryoturbation, slide)	Only light soil movement observed
Decay of organic materials	Rate unknown
Other threats	
Future threats?	
<b>Comparison to earlier descriptions</b>	McGovern 1981 describes excellent state of preservation with frozen soil at 80-90 cm depth
<b>Monitoring</b>	
Already initiated	None
Suggested	
<b>Important unknowns/ research needed</b>	
	Decay rate organic material
<b>Mitigation</b>	
Erosion protection	Set up an information sign for tourists
<b>Field worker</b>	Aart, Christian, Henning, Ann, Mikkel



### 3.3 Kilaarsarfik/Sandnes

#### 3.3.1 Landscape and Geomorphology

Kilaarsarfik/Sandnes – ruin group no. V51/ - is located at the head of the Ameralik in a fjord branch known as the Ameralla; in its NE corner, the Ameralla forms an open shallow bay below the mouth of a wide valley that leads directly north to the fjord of Kapisillit. Sand and gravel deposits from this wide valley have washed out creating an alluvial fan protruding slightly into the bay; the ruin group is located at the very tip of the alluvial fan. A small river meanders through the valley spilling into the bay just E thereof; on the banks of the river is mire.

The waters of the bay in front of the alluvial fan are exceedingly shallow, glacial outwash silt being thickly deposited in the calm waters at the head of the Ameralla; as a result, a several hundred meter stretch of silty sea bed is exposed in front of the alluvial fan during low tide, while during high tide the waters come right up to and lick at the exposed erosion front running along the entire stretch of coast of the bay. The shallow waters are of constant logistical concern as sailing in anything but the small of boats is impractical even during high tide.



**Fig. 3.10** Aerial photograph, looking east, of the bay at the head of the Ameralla and the alluvial fan with ruin group V51/Kilaarsarfik. Clearly visible is the lush grass vegetation on the relict Norse homestead surrounding the ruins and an equal lush patch of grassland on the far side of the river (*Photo: C.K. Madsen 2012*).



The front of the alluvial fan, where the ruins are located, rise only few meters above sea level; here lie the ruins of V51 and, surrounding them, a lush vegetation dominated by grass often standing more than a meter high (the relict Norse homefield) and dense willow scrub of up to two meters (fig.3.10). Undoubtedly, the willow scrub now spreading on the alluvial is a more recent vegetation feature; in fact, comparing with a 1903 photographs by Bruun (1917;53) and Roussell (1936) fig.1, 6, the willow scrub has spread significantly during the last c.100 years (cf. fig 3.10); Accordingly, it is reasonable to suspect that the grassland vegetation was much more prevalent during the Norse occupation (as is also demonstrated from new pollen evidence), and that the willow scrub will continue to encroach on the grassland and ruins with some negative impact on the latter.



**Fig. 3.11** The slope E of the river and the alluvial fan with ruin group V51 seen towards the NW; behind the slopes of the mountain covered by willow scrub. Cf. fig.3.10 for the extent of grassland also visible in the photograph (*Photo: C.K. Madsen 2012*).

On the gentle slope rising E of the river and along the shore of the bay, the lower part vegetation is completely dominated by very rich willow scrub with the inclusion of a few birch trees and small wet mires (fig.3.11). Ascending the slope, the scrub vegetation quickly gives way to dwarf heath vegetation. However, there is a patch – roughly 60x60 meters – of grassland, equally luxuriant as that of the relict homefield, on the slope just above the river.

In fact, this lush grassland patch stands so out significantly from the surrounding vegetation that one immediately suspects it to hide ruins or midden; for the same reason Roussell did test excavations of the area in 1930 – the traces of which are now faintly recognisable as depressions in the terrain – without describing the extent of this test trenching (Roussell 1936;13). Finding no structural remains, but slight cultural material, Roussell interpreted this grassland patch as the “...camping ground of outsiders who came to attend service at the church” (Ibid.). Further investigations of the grassy patch were carried out in 1984, and by the 2012 Norse Team, neither finding evidence of Norse structures (see section 3.3.3)

The Kilaarsarfik/Sandnes hinterland today appears exceedingly poor in quality pastureland; up and centrally in the valley, one finds only vast areas of mire and heath vegetation; however, on the lower slope of the bordering mountains is a considerable extent of willow scrub, especially in the small side valleys, which must also have been collected and used as a fodder resource by the Norse.

West of the main cluster of ruins is a patch of even grassland apparently void of ruins, which today is used as camping ground for school kids from Nuuk during the summer and hunters during the fall and winter (it was also the site for our Kilaarsarfik base camp) (fig.3.20). Many facilities, items, boats etc. are left from these activities, but they seem in no way to be in conflict with the ruins and do rather offer an easy logistical opportunity for outreach and dissemination of the 'People of All Times – project'.

Inuit settlement is also present at Kilaarsarfik; along the beach just SW of the camping area a Saqqaq/Dorset site has been registered (McGovern 1996;100); nothing is visible on the surface – owing also to dense sedge vegetation – but we did find two quartzite artifacts on the stony beach, i.e. they likely stem from an eroded cultural layer. Thule-culture structures was 1984 found on the area presently been used as camping area; thus, all the main cultures known to have inhabited Greenland are present at Kilaarsarfik/Sandnes.



**Fig. 3.12** View looking SSE of the valley above Kilaarsarfik/Sandnæs with the Ameralla just visible in the background. Except for a few small side valleys, the vegetation is rather poor and consists almost entirely of mire on the valley floor and scrub a little up the valley sides (Photo: C.K. Madsen 2012).

### 3.3.2 Kilaarsafik/Sandnes: Prior Observations and Investigations

The below outline of prior observations and investigations at Kilaarsarfik/Sandnes is not aimed at presenting a complete overview of all archaeological and historical research done on ruin group V51, but has rather singled out information aspects relating to the research agenda of the 'People of All Times - Project', i.e. accounts relating to environmental/climatic changes, erosion, relative sea level change, and site preservation. For a full account of the investigations refer to the literature cited.

#### H. Egede 1723-1727

The first mention of ruins at Kilaarsarfik is by H. Egede in a report to Missionskollegiet in Copenhagen in 1724; Sept. 27. 1723, Cpt. Berenth Hansøn returned to the colony at Håbets Ø from a trip into the Nuuk and Ameralik fjords, reporting amongst other things that they had observed at the head of the latter fjord: “(...) *an old collapsed stone wall like that found at Ujarachsuack (Ujarassuit/Anavik)*” (au. trans. after Egede 1725;104). Although Egede gives no further description the short remark is nonetheless interesting as it likely refers to the churchyard wall surrounding the church at Kilaarsarfik/Sandnes. On Apr. 30. 1723 Egede had himself visited Ujarassuit (Norse Anavik/V7) and there correctly identified a church surrounded by a churchyard wall (Ibid.77p). The comparison of the wall at Ujarassuit with the one at Kilaarsarfik/Sandnes means that it was, in all probability, the churchyard wall that Cpt. Hansøn had observed; and that it stood as well preserved as to be identifiable by non-archaeologists.

May 30.1727, a captain Albert Top had been on a hunting trip in the Amerallik fjord, where he had been given by the local Inuit: “(...) *a piece of metal which appeared to be a kind of silver alloy; it also appeared to have been a piece of a bell, which without came from one of the church bells once in use here in the land; because the Greenlanders stated to have found it in the ground*” (au. trans. Ibid. 200). With Kilaarsarfik/Sandnes being the only identified church in the Ameralik Fjord, the piece of church bell undoubtedly came from the V51 church, either exposed through erosion or by Inuit mining the Norse ruins.

#### E. Thorhallesen 1776

In 1776, Norwegian E. Thorhallesen made a voyage of discovery to the inner parts of the Nuuk and Ameralik fjords, a journey also aimed at assessing the possibilities of resettlement of the area (Thorhallesen 1776). Thorhallesen gave the first extensive description of the ruin group: ‘*In the northern (branch of the Ameralle) stands the remains of the most substantial building found in Båls Revier (the Western Settlement), which is most visible in the spring when the old grass is withered and the new has not yet developed. At that time of the year, I have here counted more than 20 house remains, small and large, some connected with entrances, and some separate from the other. The building is located some paces from the beach, which here is very shallow. On the beach many stones are amassed, probably once used in a building, which likely stood where now the high tide have reached. On a certain stretch along the beach, a short distance from the houses, one sees human bones protruding from the ground, from under the ground surface, which the Greenlanders collectively claim belong to the old Kablunat (the Norse),*

*and therefore do not dare to touch them. I collected some of them, but could otherwise see no indication of a churchyard, or marked graves. At the middle of the end of the bay is another collapsed building, close to a small stream, wherein the water rises ; here is the most ample opportunity for seal netting, because they also seek up there during high tide'* (au. trans. after Thorhallesen 1776;36p).

Thorhallesen did obviously not distinguish between buildings and rooms in buildings; with only 8-11 buildings otherwise being recorded up till today; his *'over 20 house remains'* must include rooms in the byres and dwelling (ruin 4-6). Thorhallesen's mention of exposed bones is the first indication of ongoing erosion; the note of the bones protruding *'from under the ground surface'* could indicate that the bones were still somewhat buried, perhaps only protruding from the contemporary erosion front. At least, the bones do not seem to have been scattered about on the surface.

### K.L. Giesecke 1808

Sept. 20. 1808, geologist Giesecke reached Kilaarsarfik/Sandnes, but noted little of the ruins; he does, however, report that he: *'(...) also found a very old likely Norse grave by the place where the above mentioned house remains (the ruins of V51) are found. Some of the bones were sticking out there from and could be scrolled as paper'* (au. trans. after Giesecke 1910;170 "Liessen sich wie Papier blättern"). Although Giesecke's very cursory description does not inform us much on the state of the site or the ruins, it does echo Thorhallesen's account that human bones were eroding forth; the description of *'a grave'* and *'some bones (...) sticking out'* would, in accordance with Thorhallesen, seem to imply that the amount of bones was not large and that they did not lie completely exposed on the surface. Although somewhat harder to interpret, Giesecke's remark that the bones *'could be rolled as paper'* could signify that the bones had been exposed for some time, i.e. were poorly preserved.

### Sigurdi Breíðfjörð 1836

In 1836 Icelandic writer and poet Sigurdi Breíðfjörð gave the following account of Kilaarsarfik/Sandnes of the site: *'(...) I the northern end (of the Ameralla) more ancient vestiges are found than anywhere else on the coast. There I have counted 25 ruins (houses) of which at least 6 have been dwellings, the rest different outhouses. The settlement (houses) is located few fathoms from a low and shallow beach. By the waters edge are stone ruins, which show that a building once stood here, which has now washed away. Over a small stretch of the beach front one sees here and there decayed human bones sticking out of the ground, of which I tried to pull out some, but they would disintegrate because of the decay. If the indistinct ruin was a church and this stretch of bones, which seems fair to assume, was a cemetery one is hardly to fault if claiming that here lay in the days of yore Anavik of the Sagas. At the middle of the end of the bay lies a single farm a little from the other houses by a small stream. At high tide quite many seals swim up this stream and one could probably catch a lot using a net'* (au. trans. after Breíðfjörð 1836;33p).

Breíðfjörð's description of Kilaarsarfik/Sandnes is very similar to Thorhallesen's; in fact, it is so similar that he must have been copying off some of the latter's account (cf. particularly the part about the seals in the flooded stream). Yet, in his mention of the human bones, which he himself appears to have tried to remove, seem to substantiate both of the former accounts: human bones, in



what seems limited numbers, were sticking out of the soil, not lying on the surface, and were very poorly preserved.

### H.P.C. Møller 1840

Another rather detailed description of Kilaarsarfik/Sandnes was provided, when H.P.C. Møller visited Kilaarsarfik/ Sandnes in 1840 on behalf of 'Oldskrift-Selsskabet', reporting back to them through his diary:

*'A small elongated plain is on two sides delimited by the fjord, on the other two by mountainous reaches that almost conjoin. Visible on the plain was here and there willow copses mixed with a little dwarf birch scrub. By these grew scattered rorart??? and ?Fireweed? which with their beautiful red flowers brightened up the grey cover of moss. A small river meandered from the mountain and delimited the plain towards the north. Towards the fjord, the bay was bordered by a narrow sandy beach.*

*The afternoon was spent investigating the there present, much distorted, ruins. The ruin that first strikes the eye lies not far from the river and directly on the beach, so that the fjord almost completely covers it at high tide. Yet, at low tide one sees a heap of flat stones, which seems to have formed an elongated square towards the east and west. However, it is only on one side, i.e. towards the north, that one can clearly establish that the here gathered mass of stones have once belonged to a wall. The western end lies under the vegetation surface, which rises approx. 60cm (1 alen = 62,77cm) above the shore, and to which height the high tide reaches. By erosion of the soil quite a few human bones have been exposed and lie strewn about on the beach; according to the Greenlander's saying, these are the bones of the once interred foreigners (Norse).*

*Visible about centrally on the plain are either one, and if so rather substantial building, or three separate, although connected buildings. The first interpretation appears most likely to Mr. Møller because only the middle section seems to have had entrances. This part of the building, which lies to the east and west, is 24 alen (c.15m) long and 14 alen (c.8,8m) wide. Lengthwise it is separated into three rooms of which the middle one is the widest, i.e. 6 alen (c.3,77m). In the southern wall traces of two entrances are seen, one in each end; the eastern 2 alen wide (c.1,25m), but the western very narrow. The eastern section of the building has, equally to the east and the west, had the substantial dimension of 30,5 alen (c.19,15m), but has only been 7,5 alen (c.4,7m) wide. The walls of this section are in places quite indistinct. The left section of the building have had its largest extent in the opposite direction, i.e. towards the north and south; it is here 12 alen (c.7,5m) in length and 7,5 alen (c.4,7m) in width. The southern wall has formed one single façade of 63 alen (c.40m)' (au. trans. after Pingel 1842;344p).*

The ruin description provided by Møller is still sketchy and only matches roughly with the identified ruins, which – contrary to Møller's assessment – did in fact consist of three separate buildings, not one. His remarks on the church and churchyard are more significant: the fact that Møller describes these as “striking to the eye” must mean that they were a lot more visible then than they are today, where they are hard to identify even knowing where they are supposed to be. In his description, Møller does not distinguish between the church itself or the churchyard dike; in any case, the walls to the east, west, and north seems to have been identifiable in 1840; the western part still covered by soil. The latter circumstance strongly suggests that the erosion front must since have moved at least some meters west (or been removed by excavation, see below). Compared to



Giesecke's 1808 account, the description of *'quite a few bones'* lying exposed on the beach also seems to suggest aggravated erosion, i.e. Norse graves were increasingly being exposed and bones were now lying on the surface, rather than "sticking" from the ground.

### **GHM 1838-1845**

The description of Kilaarsarfik/Sandnes in the monumental antiquarian study of 'Grønlands Historiske Mindesmærker' (GHM) was to a large extent simply an abbreviation of Møller's observations adding little new to the site history: "*By the northern branch (the Ameralla) lays an elongated plain with a narrow sandy beach. A river delimits the plain towards the north, which is sporadically vegetated by willow copses and a little dwarf birch scrub. At least part of the plain seems to have been cultivated. The largest remains of buildings are found by the banks of the fjord and so close to it that the water occasionally covers them completely. By erosion of the soil quite a few human bones have been exposed, which, according to the Greenlander's saying, are the bones of the old foreigners (Norse). It is very safe to assume that a once was a churchyard here. About centrally on the plain one sees either a single large building or three separate, but connected houses*" (au. trans. after GHM III;836p).

### **Lt. J.A.D. Jensen 1883-1885**

On a principally geological expedition of the years 1883-85, Lt. Jensen managed to produce a more systematic description of the ruin groups of the Nuuk and Ameralik fjords, which was based on prior descriptions, oral accounts, and their own observations. In his 1889 publication Lt. Jensen introduced the ruin numbering system still in use to signify the ruins. Lt. Jensen gave following description of Kilaarsarfik/Sandnes: "*In the inner part of a bay at the head of the fjord (the Ameralik) lays quite a few ruins, where should be found a lot of skeletons. Tradition states that it was never a burial ground, but that the skeletons are from people that were killed on the spot. The fjord gradually washes away the soil and has swallowed some of the houses ; one of them is even said to be completely engulfed by water so that only the walls are visible. During low tide one finds numerous relics, such as the bones of humans and animals, sherds of steatite vessels etc.*" (au. trans. after Jensen 1889;116).

Obviously, the local narrative of the exposed Norse bones is by this time evolving to a more dramatic tale, but so too was, apparently, the erosion of the churchyard *'where should be found a lot of skeletons'*. That the bones were thought by local Inuit to be killed on the spot, i.e. not interred or sticking from the ground, strongly suggests that they lay completely exposed on the beach around the church and churchyard, which was now completely flooded at high tide. It should, however, be noted that Jensen did not visit Kilaarsarfik/Sandnes himself and was basing his description of former accounts and contemporary hearsay.

### **D. Bruun 1903**

In 1903 D. Bruun was the first to produce a reasonable survey plan of the ruins at Kilaarsarfik/Sandnes (fig.3.13) and to do more thorough investigations as well as small scale excavations. Bruun identified 6 or 7 ruins (fig.3.13) of which he only describes ruins A-E: Bruun's ruins corresponds to those of Roussell so that A = ruin 6, ruin B = ruin 5, ruin C = ruin 3-4, ruin D

= ruin 1. Bruun's ruin E was not identified by Roussell and neither by the Norse Team, in spite of repeated intensive search on the slope east of the river. As this is covered by dense willow scrub the ruin might still be there or lie higher in the terrain. Bruun's ruin F is not described in the 1918 (95pp) publication, but corresponds well with our recorded ruin 09 (see section 3.3.3).

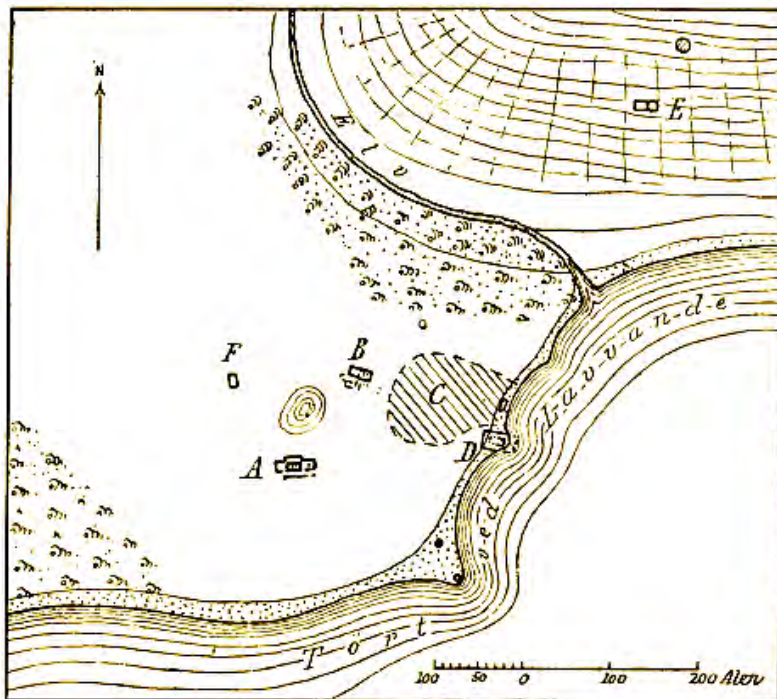


Fig.3.13 D. Bruun's 1917 survey plan, where the his ruin num-bering corresponds to Roussell's so that A=6, B=5, C=3-4, and D=1. Note also the location of the coastline and the church and churchyard (after Bruun 1918;fig.23).

Bruun noted that midden layers were exposed in the erosion front below ruin C = 4, where he excavated, and also found midden further up of the slope without, however, specifying where or noting the extent of the excavated trenches (Bruun 1903;195p, 1918;95pp).

Regarding the church and churchyard, Bruun writes in his 1903 account of the investigations at Kilaarsarfik/Sandnæs that: *"At the beach quite a few animal bones protruded from the yet un-eroded soil masses. When we started excavating here we little by little found 5 human skeletons or crania. In the beginning this unearthing of bones from both animals and humans in the same spot was puzzling, but the explanation would reveal itself. As the tide went out, a large stretch along the coast of the bay proved to be left dry, and then we were able to see the remains of a, it appeared, east-west oriented house as well as dikes, within which all the human bones were found, while the animal bones came almost exclusively from the outside. We were no longer in doubt that we were here again seeing a churchyard and church, which had been placed close to the living quarters with midden in front, such as it is normally seen in Iceland up to the present day. Within the churchyard walls we also discovered a stone vessel, which might have served as a font inside the church"* (au. trans. after Bruun 1903;195).

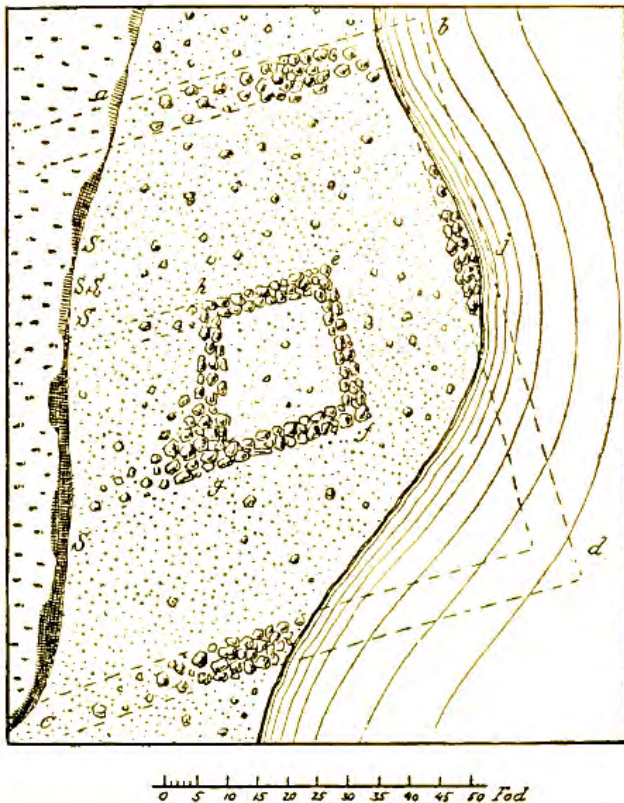


Fig.3.14 Bruun's 1903 survey plan of the Kilaarsarfik/Sandnes church and church yard (after Bruun 1918;27).

Bruun was also the first to provide a detail survey plan and photograph of the church, ruin 1 (fig.3.14 and 3.15). Bruun describes the church building accordingly: *'To the north, east, and south one clearly sees the remains of walls, while the western end of the house (k-g) is indistinct'* (au. trans. after Bruun 1918;98). The accompanying photograph (fig.3.15) largely supports Bruun's observations; a rough outline of the ruin was visible at least in 1903. The lack of a clear western wall likely owes to the typical condition of the Norse churches mostly having a wood built western gable.

On the churchyard and dikes Bruun notes: *'During low tide the ruin is left dry. North and south from the ruin probable churchyard dikes are visible. The eastern boundary of the churchyard (b-d) has, except in one place (j) been washed away. The western boundary must be found below the vegetated terrain'* (au. trans. after Bruun 1903;195). It is impossible to verify these observations from the photograph, but Bruun was a trained surveyor of Norse sites and there is no reason to doubt his interpretations on the preserved stretches of walls. As to the shape of the churchyard, it is likely depicted more regular and strait angled than in reality, as was habitual to Bruun's surveys.

Summarizing, the church proper, and apparently also parts of the churchyard walls were still identifiable in 1903. Bruun refers to the old description of skeletons lying exposed on the surface, yet the only few bones he finds comes from excavating along the erosion front (marked S in



fig.3.14). Surely, he would have noted if skeletal parts lay strewn about; it can be safely assumed that by 1903, these remains had either already eroded away, if not otherwise removed.



**Fig.3.15** 1903 photograph of the church building (after Bruun 1918; fig.27).



**Fig.3.16.** 1903 prospect of the Ameralla fjord branch and the bay in front of the alluvial fan with ruin group V51, Kilaarsarfik/Sandnes. Note the extensive grass vegetation on the alluvial fan, cf. fig.3.11, and the small alluvial fan centrally in the drawing (which was based on photograph). After Bruun 1918b;53.

A drawing, based on photograph, of the landscape surrounding Kilaarsarfik/Sandnes produced by Bruun during his 1903 visits has some other interesting implications; first of all, one clearly notices a marked vegetation change on the alluvial fan from today, grass vegetation apparently being much more prevalent in 1903 – and surely during Norse occupation – than today (cf. fig.3.16, 3.10 and 3.11). Clearly, the willow scrub is increasingly reclaiming the area, which it undoubtedly dominated prior to Norse settlement. As mentioned elsewhere (see section 3.3.3.), this re-vegetation has some negative impacts on the ruins and their visual qualities.

In the lower central part of Bruun's depiction, one also notices the small alluvial fan by a smaller river or stream. This must be the river or stream referred to by both Thorhallesen and Breiðfjord (see above) as the stream that was flooded at high tide and where seals would swim up; they also mention a flooded ruin here (not investigated in 2012). This small alluvial fan in front at the mouth of the stream does not exist today (cf. fig.3.10).

### **P. Nørlund & Aa. Roussell 1930, 1932**

On behalf of the National Museum of Denmark, large scale excavation at Kilaarsarfik/Sandnes was carried in 1930, with supplementary excavations in 1932; the 1930 excavation was lead by P. Nørlund with Aa. Roussel working as his assistant, who also oversaw the 1932 investigations; Roussell was also the one to produce the final excavation publication (Roussell 1936). Nørlund and Roussell completely excavated ruins 3-7 by emptying the rooms to floor level and trenching along the outside of the walls to ensure their extent. They also excavated in the western part of the churchyard, recovering 42 interments (Ibid.1936;16). Ruins 4-7 mostly displayed excellent preservation, containing well-preserved wood and animal manure and revealing a lot of constructional details. Nørlund and Roussell also excavated parts of the midden, noting equal good preservation and frozen soils (Ibid. 1936;13). Neither the rooms nor the trenches were ever backfilled, the spoil heaps instead being deposited in heaps outside the buildings and on top of the midden.

Except for the lack of a few buildings, and the addition of a few new located during excavation, Roussell's 1936 survey plan (fig.3.17) corresponds rather well with Bruun's 1903 version (fig.3.13). However, there is one notable difference by the church, ruin 1, where Roussell places the eastern churchyard dike as parallel and merged with the eastern gable of the church. Roussell writes of the dikes: *'In the fjord bank were accumulations of large stones, which seem to mark the west dyke, but they lay in no sort of order, let alone bonded. It appeared, however, that the interment stratum had its limit here, and the makes the identification certain. On the north and south no dyke could be distinguished, but on the east side, out in the water, was a row of stones which might well have been a dyke. Only in the most westerly part of the churchyard did we succeed in uncovering interments'* (Roussell 1936;15).



The placing of the churchyard wall along the gable of the church building proper is highly unusual for a Norse church, where the church is almost always located centrally within the churchyard. J. Arneborg has (pers.com.2012) suggested that the churchyard dike was moved up the beach during the Norse period because of increasing relative sea level rise. However, a much more likely explanation for the unusual location of the churchyard dike – also corresponding better with the older observations, including the 1903 survey plan of Bruun – is that what Roussell saw was the remains of churchyard dike having been moved up the beach and amassed by the yearly pressure of winter ice; today, where almost no remains of the church or churchyard dike are preserved, one can observe a similar line or row of stones – most of them square in form and a few of them even with chisel marks from shaping – lying just below the erosion front. These obvious building stones are what remain of the church and churchyard dike.

Also apparent from Roussell's description of the churchyard is the fact that by 1930 no skeletal remains were lying exposed on the surface, i.e. erosion of the northern, southern, and eastern parts of the churchyard was complete; what remained preserved was found under the erosion front in the westernmost part of the churchyard.

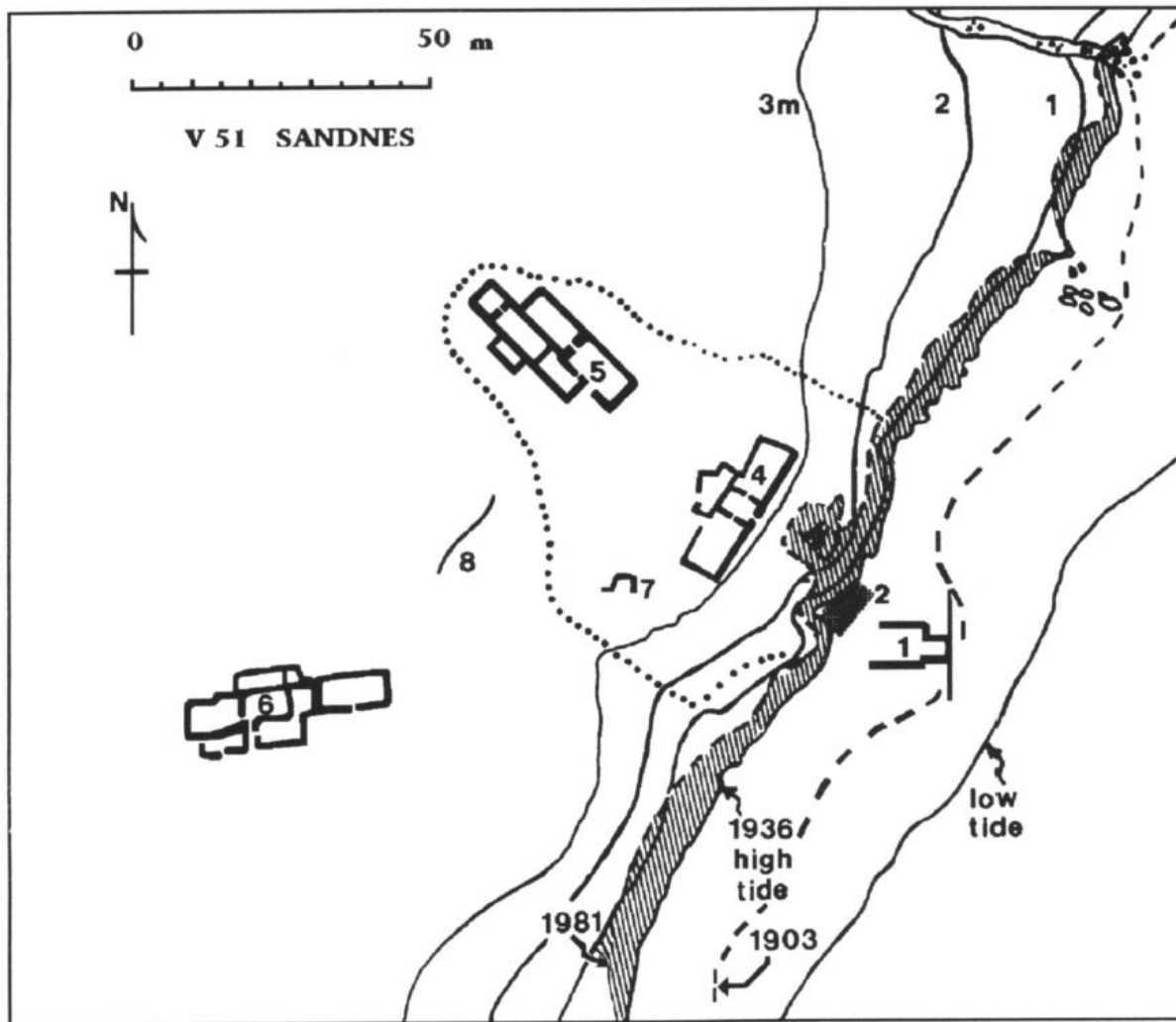


Fig.3.17. 1996 reproduction of Roussell's survey plan with tide limits and trenches drawn in, where ruin 1 is the church, 2 is the area of the churchyard excavated by Roussell, ruin 3 earlier phase ruins covered by midden, ruin 4 the dwelling, ruin 5-6 byres/staple complexes, ruin 7 smithy, ruin 8 homefield dike (after McGovern et al. 1996;fig.3).

#### McGovern et al. 1981

In 1981 a mixed team of American and Danish archaeologists did surveys and test trenching at Norse sites in large area in the vicinity of Kilaarsarfik/Sandnes (unpubl. field report no.33-011, NKA). One of the aims of the field work to identify sites with middens with well-preserved cultural material for future excavation. The 1981 also made a test trench at Kilaarsarfik/Sandnes running from ruin 1 and to the erosion front, finding good preservation and noting that Roussell had not carried his excavation to the bottom of the cultural layers (unpubl. field report no. 33-011 app. 6). The 1981 team did not note the presence of frozen midden. They concluded that the midden was gravely endangered by coastal erosion.

#### McGovern et al. 1984

As a result of the 1981 field work and conclusions, large scale excavation and multidisciplinary investigations were carried out at Sandnes/Kilaarsarfik – 'Sandnes Archaeological Rescue Project 1984' – by a mixed team of Greenlandic, Danish, and American team, of the Norse midden and the Saqqaq/Dorset site found close by (McGovern et al. 1986). The 1984 excavation produced a large, high quality, well-stratified faunal collection as well as many well-preserved finds.

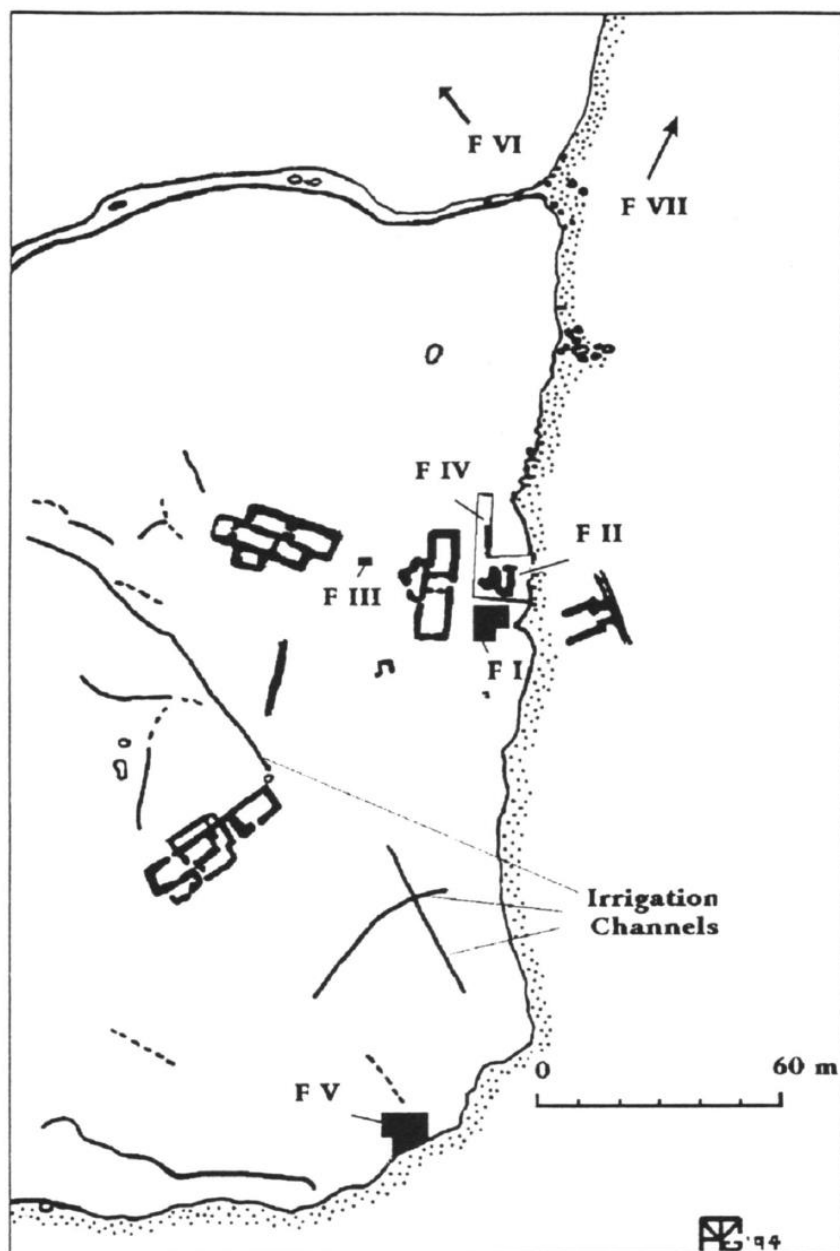


Fig. 3.18 Plan of the ruins of V51 and the location of the 1984 trenches and identified features (after McGovern et al. 1996;fig.4)

Fig.3.18 displays the extent and numbering of the midden trenches excavated in 1984. Trench FI was the trench excavated by the American part of the team and the trench singled out beforehand for the 2012 investigation because of its depth, its likely easy identification, and its fine documentation. The 2012 section PI where the climate station was installed (see section 3.3.5) was placed in the SW corner of trench FI.

Trench F V covered the Saqqaq/ Dorset site which revealed substantial collection of stone tools and some traces of likely structures. Paleo-Inuit lithic artefacts also was found on the beach in front of the Norse midden and beneath its lower layers. In 2012 we also re-covered two quartzite artefacts (x1-2), showing that material is still eroding forth as the paleo-Inuit cultural material under the midden deposits will continue to be washed out.

Trench FVII was a newer four-sided structure, which proved to be some kind of hunters' shelter or hut, likely from the 20<sup>th</sup> c. (J. Arneborg 1984, unpubl. excavation report, NKA archives). In the erosion front just in front of the hut, a few bones (x17) were found in 2012; they are likely from a slight midden associated with the structure, which is now being eroded by the waters of the fjord; one of them is part of a walrus skull, split in a similar way as walrus skulls found in several Norse sites (fig.3.19).



**Fig. 3.19. Part of a walrus skull (x17) split for the extraction of tusk found in front of a more recent structure across the bay from V51 (photo: A.L. Lennert 2012).**

### Site History Summarized

In spite of their very varied mode and detail of the descriptions, the different antiquarian and archaeological sources on Kilaarsarfik/Sandnes allow for establishment of a rough outline of site erosion and preservation:

- The 18<sup>th</sup> c. and early 19<sup>th</sup> c. accounts suggest that the church and churchyard at Kilaarsarfik were already at that time being flooded and eroding; however, the church and churchyard were still identifiable and only a few bones were gradually being exposed. Some time towards and after the middle 19<sup>th</sup> c., flooding and erosion seems to have worsened: many



bones were exposed on the surface (rather than sticking from the ground) and were much degraded. By 1903, the church was still fairly visible, the churchyard dike less so, and no bones were remaining visible on the surface, but were showing once excavating along the erosion front. In 1930-32, the church was barely visible, the churchyard dike all but obliterated, and graves only preserved in the westernmost end of the churchyard covered by midden.

- The 18-19<sup>th</sup> century accounts of the vegetation are too vague to allow for an assessment of vegetation changes on the alluvial fan; only from 1903 may it be deduced that the willow scrub has this time onwards continued to encroach on the homefield and ruins, with some threat to the latter
- The descriptions, survey sketches, photographs, and accurate site plans do suggest some geomorphologic changes of the coast in Kilaarsarfik/Sandnes bay; besides the gradually aggravated flooding and erosion of the church and churchyard, the erosion of the small alluvial fan and ruin in the middle part of the end of the bay suggests.

### 3.3.3 Archaeological investigations and evaluation of state of preservation



**Fig.3.20** The main cluster of Norse ruins, V51, of Kilaarsarfik/Sandnes as they appear today: ruins 3-5 and the midden area is located centrally in the photograph, ruin 6 in the top and, just left thereof, the present camping area, which was used as base camp for the Norse Team (*photo: C.K. Madsen 2012*).



Today, the Norse church farm of Kilaarsarfik/Sandnes appears rather confusing and indistinct: Roussell's unfilled and unmapped trenches enclose the ruins and crosscut the midden, while the backfill in the 1984 excavations have sunken so that they today appear half filled (fig.3.20). Everything is covered by meter high vegetation – grass, sedges, and willow – through which one constantly stumbles and falls into the old pits, trenches, and rooms while moving about the site. Upon closer examination, however, the ruins and rooms are mostly quite distinct and stable.

Because of the large scale and high quality of the 1984 excavations, and in accordance with the project agenda of non-destructive investigations, archaeological and other investigations in the midden and ruins were in advance decided to be kept at a minimum. As we were quickly able to establish the 1984 trench F I, where we had decided to do our main investigations and install the monitoring equipment, and found this very suitable to the purpose, other investigations were done with minimum impact on the ruins and midden, i.e. foremost coring and drilling, very small scale test trenching, DGPS-surveying, and setting up monitoring equipment. All these tasks were completed in the period of the 20.08-21.08 and 24.08-30.08 2012.

#### **Kilaarsarfik/Sandnes 2012 surveys**

Two new ruins were identified, registered, and DGPS-surveyed during the 2012 fieldwork (see updated site plan from the 2013 survey, fig.5.11):



**Fig.3.21** Ruin 09 (photo: C.K. Madsen 2012).

**Ruin 09 (fig.3.21):** Some meters W of ruin 6, stands two boulders between which is a distinct depression or lowering in the terrain. To the one side, the depression is delimited by a bank/wall c.60 high and 100-120cm wide, while to the other side the banks is much less visible, the feature here instead dug beneath the surface level to create a room/enclosure. The width of the ruin, and its location outside the homefield suggests that it is an animal enclosure of some square meters with

turf or turf/stone built walls. The location and size of the ruin suggests that it corresponds to Bruun's ruin F, which he did not for some reason describe in his 1918 publication. Ruin 09 is today vegetated by low willow scrub and grass.



Fig.3.22 Ruin 10 (photo: C.K. Madsen 2012).

**Ruin 10 (fig.3.22):** A few meters from ruin 09 lies another unregistered ruin, a rectangular structure, completely overgrown by willow scrub. It has been created by exploiting a natural low (c.40-50cm) vertical cliff face for one wall and huge boulders as a foundation for a turf built (now disappeared) wall. It is likely a sheep/goats shed used in connection with ruin 09. The ruin is today vegetated by willow scrub and grass.

### Trench P I

Section P I was located in the SW corner of the 1984 excavation (fig.3.23); after cleaning the present vegetation and emptying out the backfill, a meter of the 1984 section was cut back by up to 30cm with trowel and without sieving in order to install experimental and monitoring equipment. Section P I produced 18 X-numbers; apart from one piece of baleen, as well as a few poorly-preserved wood chips not numbered, all the finds were bones, in total 81 mostly smaller fragments. All the bones retrieved from section P I was sent to the Conservation Department, Danish National Museum, for analysis and degradation studies.





**Fig. 3.23: Section P I after cleaning and before installation of monitoring equipment. Photo: H. Matthiesen**

### **Trench P II**

In the 1984 survey plan (fig.3.18), a number of irrigation channels are mapped S of the main cluster of ruins. Being ahead of schedule we decided to investigate one of them: focusing on the easternmost and N-S oriented channel, it on the surface appears as marked depression running across the present camping ground. We excavated with spade a cut, 125x30cm, across the channel, as shown in fig. 3.24 – 3.25; in the section P II, the suggested irrigation channel was very shallow

and showed no evidence of any constructional features, e.g. turf or stone lining. We instead interpret this feature as a caribou trail, still a human trail.



Fig.3.24 Section P II seen towards the N (photo: C.K. Madsen 2012).

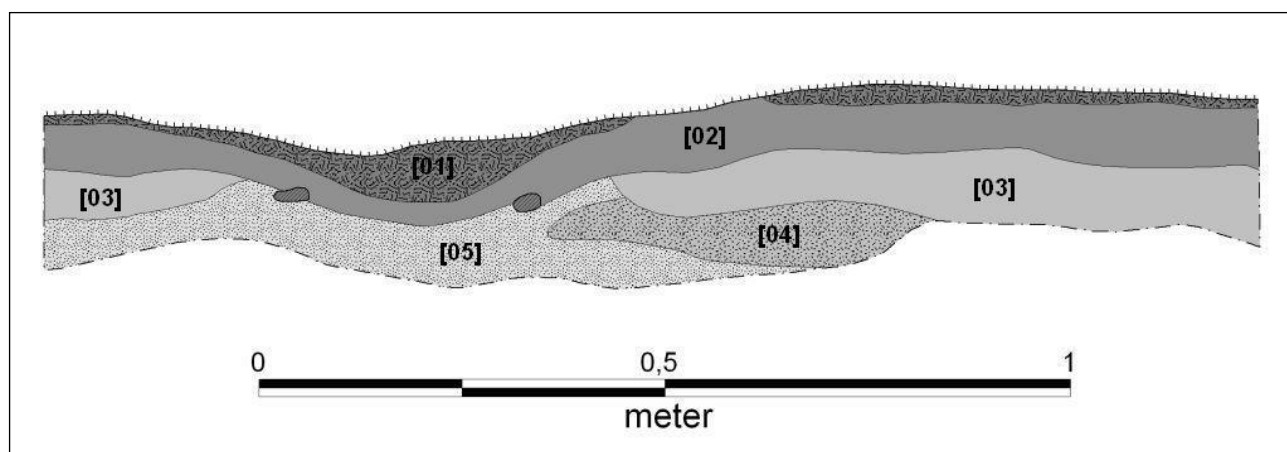


Fig. 3.25 Section P II 1:10 drawing, where: [01] is the modern vegetation layer, in its deepest part with some more sandy material washed down in its bottom; [02] dark brown organic layer with a few specks of charcoal, decomposed growth layers; [03] yellowish grey silt/fine sand, natural deposit; [04] same as [03], but more mixed and with unclear boundaries to [04] natural deposit; [05] light grey fine gravel, natural deposit.



**Trench P III**

**Fig.3.26** Trench P III after finished excavation; a balk have been left for possible DNA-sampling (*photo: C.K. Madsen 2012*).

To have a DNA-sample comparative to that from the stable of ruin group V53d room 17, and to check for preservation, we made a very small trench, 40x30cm (fig.3.26), in the N end of the excavated ruin 5 room III; under the present vegetation surface came a thick layer (c.25cm) of densely rooted earlier vegetation layers – grass re-growing the soil spilling into the rooms after Roussell's excavation. At the bottom was the very slight traces of a floor layer, < 0,5cm in thickness, before coming on to natural deposits of yellow gravel.

**Trench P IV**

**Fig. 3.27** Trench P IV after finished excavation; nothing but a likely flagging stone is discernable after the willow roots have penetrated and disturbed all the layers (*photo: C.K. Madsen 2012*).



With trench P IV resulting only disturbed deposits unusable for DNA-sampling, we decided to excavate a like small trench in the SE corner of ruin 6's room III (fig.3.27): here Roussell noted thousands of pre-served sheep/goat pellets between two layers of flagging. Room III, and most of the rest of the inside of the rooms of ruin 6, are today heavy vegetated by willow scrub. As we tried to excavate a small trench some 50x50cm we encountered an extremely dense root layer, which had completely disturbed all layers down to what was a probable flagging stone resting on top of the yellow sand of the natural deposits. There was no trace of preserved organic material. This small trench gave a clear indication of what damage willow scrub can cause to the ruins and possible excavation.

### Coring by the church and churchyard



Fig. 3.28 Coring in front of the church and churchyard (photo: H. Matthiesen 2012).

To learn more about the erosion and isostatic/eustatic processes and preservation of cultural layers in the now completely flooded and eroded church and churchyard, we did some coring in the small, stony, and slightly elevated 'headland', where the church once stood, and the seabed some meters east thereof (fig.3.28). Coring in the saturated silt of the seabed exposed at low tide, naturally, proved highly problematic, as the core hole would quickly fill up with silt and water and the sediment in the core would slide and mix. Nonetheless, we could establish with some certainty that:

- There are no preserved cultural or organic layers beyond the small elevated stony headland, only silt sediments resting upon sand/gravel deposits.
- There is slight traces of a vegetation layer on the small headland, once outside the church, while in the area where the church once stood, there is too many stones to get through the sediments with the corer. Between the erosion noted in the earlier accounts and excavations

of Bruun and Nørlund/Roussel, none or very slight traces of the Norse interments are expected still to remain intact.

### **Coring the patch of grassland E of the river**

Suspecting, like Roussel in 1930, that a c.60x60m patch of rich grassland N of the river might hide ruins or midden, we cored a small transect up the grass vegetated slope. Only 4 cores could be made to natural deposits, all of them showing only a slight influx of cultural material (scattered specks of charcoal) in peat layers, i.e. no more than one would naturally expect to find in an area close to settlement. Several other cores could not be carried to natural deposits, either because of stones or frost, which was noted at about 50cm's depth.

### **3.3.4 DNA analyses**

Midden deposits were sampled using a diamond-headed cylindrical corer specifically designed to obtain permanently frozen sediment cores, along with ancient DNA precautions. All cores were spiked with a DNA tracer to ensure that outer contamination ruled out. For initial analysis core V51-10 were subjected, in controlled laboratory environment, to further sub-sampling. Which together with samples from V53d 1-8 has been extracted for total DNA and screening of the DNA fragment length and the total quantity. The analysis shows a complex picture where both frozen and non-frozen samples contain highly fragmented DNA (50 bp length and below, see sample 2, 3, 5, 6, 9 and 11), however of the samples (>500 years) this indicate very slow DNA turnover see figure 3.29, especially compared with temperate soil sediments where DNA is digested in a rate that it only reflect the contemporary biota (Yoccoz et al. 2012).

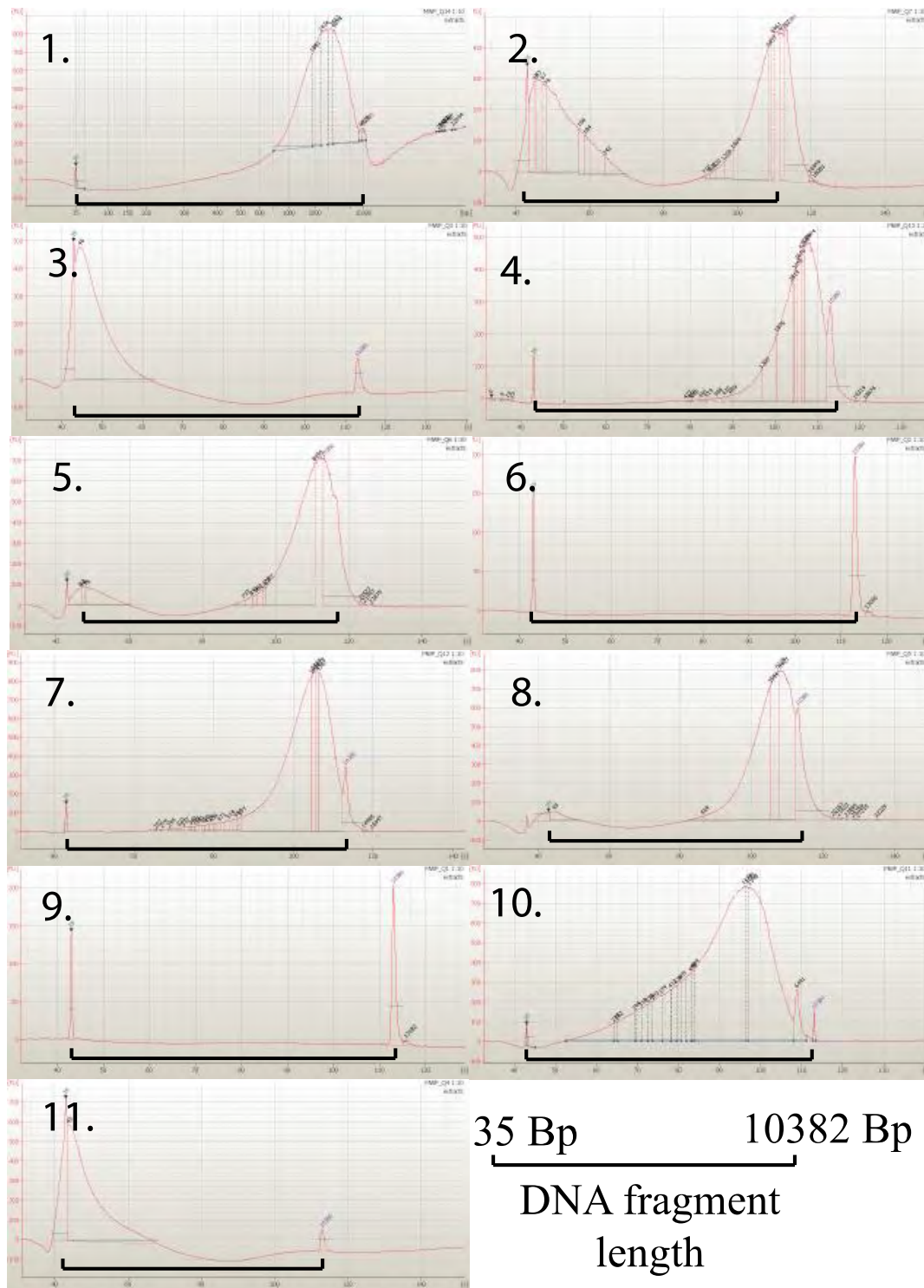
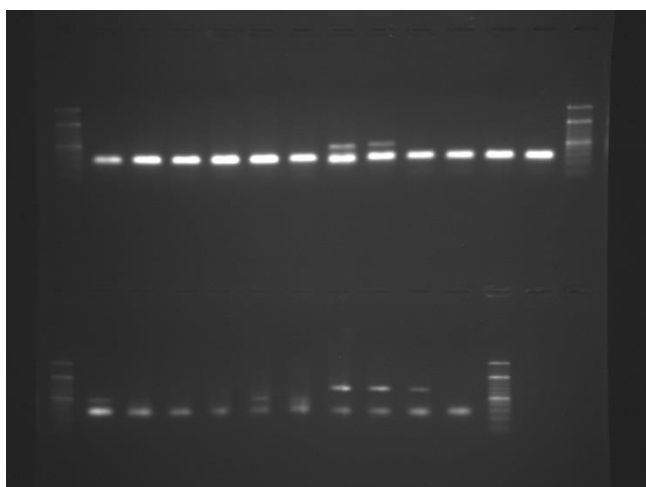


Figure 3.29. DNA fragment length of frozen and non-frozen midden deposits (1-8 are non-frozen samples from V53d and 9-11 are samples from frozen midden deposits from V51-10) All samples were measured using the Agilent 2100 Bioanalyzer system which provides sizing and quantitation control of DNA. The black scalebar ranges from 35 to 10382 Bp length and the red curve gives the measured DNA length and quantity

For a preliminary insight we targeted DNA by PCR amplifying a short fragment generic to fish. This short fragment serves as a barcode for a large group of fish thus enabling us to look for fish DNA in the midden deposit. Fish are among the interesting organisms to look for in the Norse middens because they appear underrepresented in the fossil record. Five samples yielded PCR product, however after preparation for sequencing by cloning PCR products only sample 4 were yielded DNA sequences see figure 3.30. This method is a low-cost, but also low-output method (only able to produce 96 sequence pr. run compared to 3 billion sequences pr run on the newer 2<sup>nd</sup> generation sequencing platforms)



**Figure 3.30.** Gel-photo, a fluorescent that specifically binds to DNA have been added the PCR amplified samples to screen for PCR products of right length. On both flanks is a DNA ladder indicating PCR product length

We cloned the DNA from the five PCR samples, these yielded 42 colonies that were picked and prepared for sequencing. Of the 42 colonies sequenced, three DNA sequences can be assigned to the fish genus *Oncorhynchus*, with only 96 % sequence match, the sequences is likely a species within this genus or close related.

In summary these preliminary results indicate that there likely is a complex relationship between DNA preservation even between similar samples e.g. DNA fragmentation and quantity, and furthermore, using 2nd gen. sequencing platforms we will be able to obtain a more solid and significant dataset in which we can retrieve full DNA diversity both within the genera of fish but also by targeting barcodes for plants, terrestrial and marine mammals, birds, insects and so forth.

### 3.3.5 Environmental monitoring

Probing for permafrost was made on the 27<sup>th</sup> of August 2012 with a thin steel rod at approximately 20 points across the midden. The exact positions and depth were measured by GPS. As a general picture frozen soil was encountered at 30-80 cm depth in ditches and at 75-150 cm depth in the barks. Drilling into the frozen soil was made at two points: PF1 in a ditch next to trench P I were

frozen soil was reached at only 33 cm depth, and PF2 an undisturbed part of the midden (see description by MWP above)

Field measurements of the soil water content, conductivity, pH and soil temperature were made in the excavated profile P I (fig 3.23) and the results are given in figure 3.31. All depths are given relative to the soil surface. The different soil strata may be briefly described as: 0-20 cm: topsoil with root felt; 20-55 cm: dry silt, possibly from soil flow; 55-60 cm: peat layer; 60-70 cm: dried midden layer; 70-80 cm: midden layer with some charcoal and bones; 80-120 cm: very heterogeneous midden layers with many bones, wood and other organic remains; 120-150 cm: dense silt layers with varying colors black, grey and brown and fewer finds compared to the layers above; 150-155 cm: light colored silt; 155-?cm: gravel.

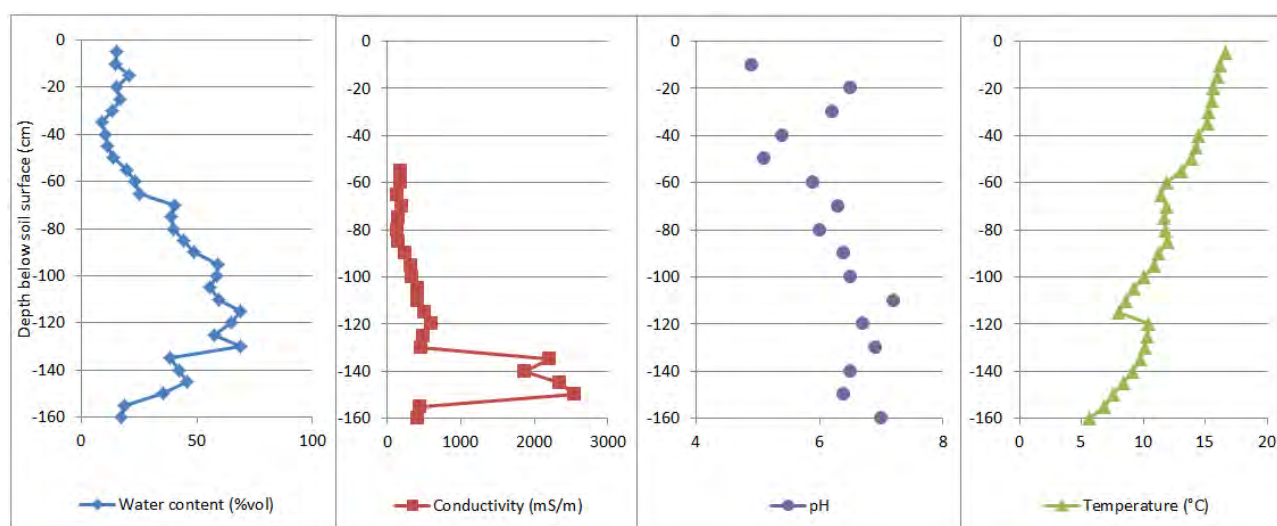


Figure 3.31: Environmental measurements in trench P I at V51, 28-30 August 2012. Water content and conductivity was measured in the outer 5 cm of the profile with a WET probe from Delta-T instruments, pH and temperature was measured with a SS37 probe from IQ instruments. Note that measurements in open soil profiles are not necessarily representative for measurements in the undisturbed parts of the midden, and for instance the measured soil temperature may be strongly influenced by direct sun on the excavated profile.

The results show a varying water content (from dry conditions in the upper layers to wet in the deeper layers) and acidic to neutral pH. A high conductivity is found at 130-150 cm depth, which is due to salt from seawater that reaches the lower parts of the midden at spring tide. The layers at 160 cm depth are more porous and salts from seawater are washed out faster. The oxygen concentration in the soil was measured at several depths in the trench P I (not shown) - all measurements showed full or close to full oxygen saturation in the soil layers.

Soil samples of 100 cm<sup>3</sup> volume were taken at 5, 15, 25, 35, 45, 55, 65, 75, 85, 95, 105, 115, 125, 135, 145 and 155 cm depth for measurement of porosity and organic content, soil bulk samples were taken at 15, 30, 45, 60, 75, 90, 105, 120, 135 and 150 cm depth for reactivity studies, and several wood and bone samples were taken for further studies in the laboratory.



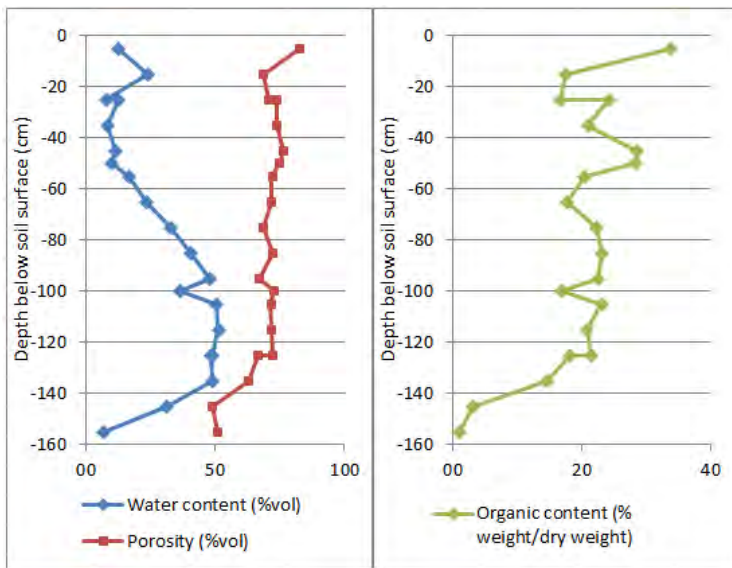


Figure 3.32: Results from laboratory analyses of soil samples from trench P1.

There is a good correspondence between the measurements of water content in the field (fig 3.31) and in the laboratory (fig 3.32), confirming that the WET sensor gives reliable in situ measurements. The measurements of soil porosity shows that the soil was far from water saturated, and even in the more wet layers at 100-140 cm depth there is 15-25 %vol of air. This is in correspondence with the fact that (close to) full oxygen saturation was measured at all depths.

Measurements were also carried out in the top soil at the permafrost drilling PF1 next to profile P I. Results are given in Figure 3.33. The results differ from trench P1 showing a significantly lower conductivity (30-50 mS/m, compared to 150-2500 mS/m at trench P1). Soil pH wasn't measured at PF1.

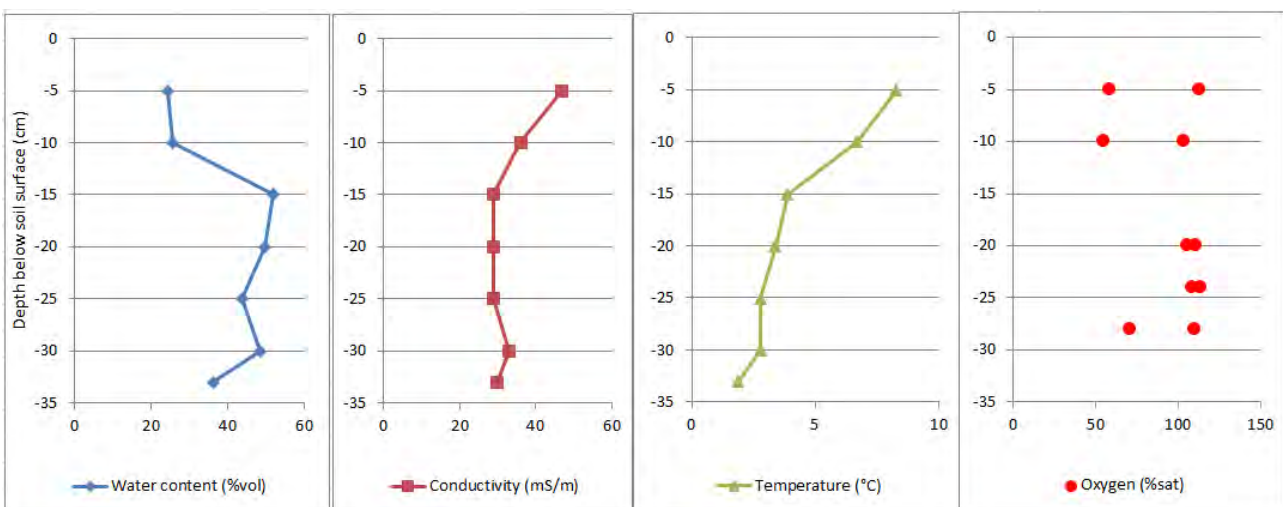


Figure 3.33: Environmental measurements in the upper soil layers at the permafrost drilling PF1 next to trench P I. Water content, conductivity and temperature was measured with a WET probe from Delta-T instruments, oxygen was

measured in duplicate at 5 depths using a FIBOX3 from PreSense and homemade glass sensors. The oxygen measurements are very variable due to heterogeneous soil conditions and a long stabilization time for the measurements.

Soil samples were taken from 0-10 cm and 10-20 cm depth at PF1, and frozen samples from 33-43 cm, 43-57 cm, 57-74 cm, 74-89 cm, and 89-104 cm depth. The frozen samples were kept frozen during transport to the laboratory.

Modern samples of wood and bone samples were buried in trench P I at 20, 40, 60, 80, 100 and 120 cm depth, three samples at each depth. Sample numbers were A1-A18 (maple tree), F1-F18 (pine), and K1-K18 (bone). No 1-3 at 20 cm, no 4-6 at 40 cm, no 7-9 at 60 cm, no 10-12 at 80 cm, no 13-15 at 100 cm and no 16-18 at 120 cm.

Trench P I was instrumented to measure subsurface temperatures in 0, 25, 50, 75, 100, 125 and 150 cm depth and soil water content in 25, 50, 75 and 125 cm depth (fig 3.34). An extra temperature probe was installed in the outer layers of the soil profile next to the trench to investigate the temperature effect of refilling the trench. Temperatures and water contents are measured every 1 hour using Campbell Scientific 107 temperature probes connected to a Campbell Scientific CR1000 datalogger and Hobo (S-SMx-M005) soil water sensors connected to a Hobo Micro Station. The Campbell datalogger is powered using a Yuasa NP7-12 lead acid battery (12V, 7Ah) and a solarpanel as charging source. Data is stored on a 2 GB Compactflash card that easily can be changed. The Hobo logger is powered using 4AA lithium batteries that can run for approximately two years. Data is stored on the internal memory that will be full July 2014. Data has to be downloaded using a special cable.

In permafrost drilling PF1 temperatures are measured in 40 and 100 cm using Gemini PB-5001 temperature probes connected to a Gemini Tinytag (Tgp-4520) datalogger. The logger is powered by a single lithium 1/2AA battery, it measures every 3 hours and will be full by July 2014. Data can only be retrieved using a special cable.





**Figure 3.34: Installation of the logger station at Trench P1.**



**Figure 3.35: Weather station at Sandnes**

A weather station was installed 100 m west of the Kitchen midden (fig 3.35 and fig 5.11). Every hour the station measures air temperature and relative humidity (MP100A Temperature & Relative Humidity probe), wind speed and direction (A100R Anemometer & W200P Windvane), snow depths (SR50A Sonic Ranging Sensor) and precipitation rates (52202 Tipping Bucket Raingauge) using a Campbell Scientific CR1000 datalogger. All sensors are mounted 2 m above the soil surface. Next to the weather station subsurface temperatures are measured every hour in 0, 25, 50 and 75 cm depth using Campbell Scientific 107 that are connected to the datalogger in the weather station. The Campbell datalogger is powered using a Yuasa NP24-12I lead acid battery (12V, 24Ah) and a solarpanel as charging source. Data is stored on a 2 GB Compactflash card that easily can be changed.

The first year of monitoring data from Sandnes was downloaded during a field in August 2013 (see chapter 5) and is shown in fig 3.36-3.40. During the observation period the mean air temperature at the weather station was  $-0.8^{\circ}\text{C}$  (fig 3.36). The amount of rain registered during the observation period was 170 mm which is significantly lower than the 700 mm registered in Nuuk during the same period (fig 3.37). The surface was covered by snow from the middle of November until the middle of May with an average snow depth of 0.1 m (fig 3.37). The surface temperature was  $0.5^{\circ}\text{C}$  at the weather station and  $0.4^{\circ}\text{C}$  at the surface of trench P I, but with a great difference in the temperature variation (fig 3.36).

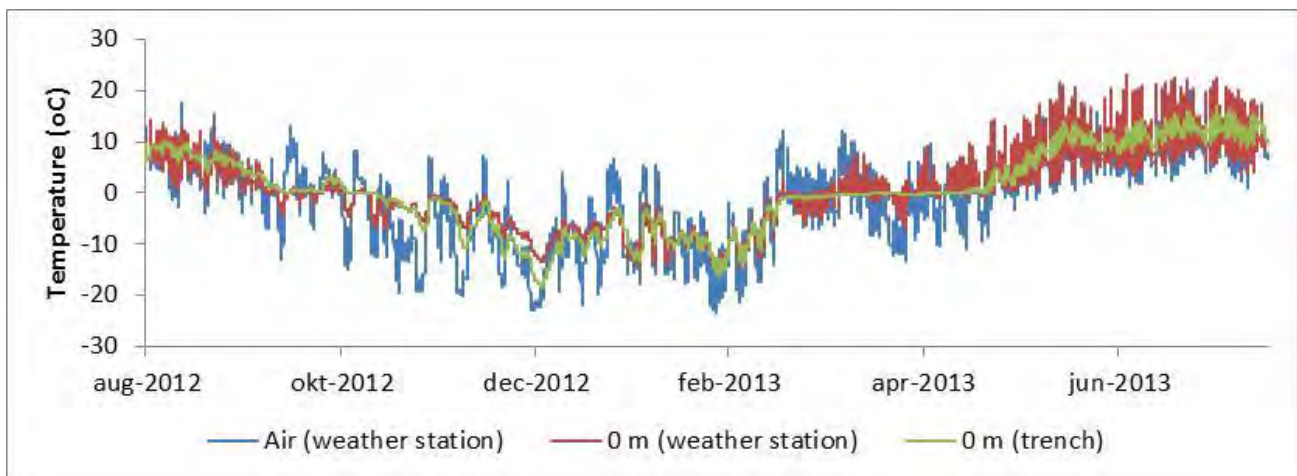


Figure 3.36: Air temperature and surface temperatures measured ant the weather station and at trench P I.



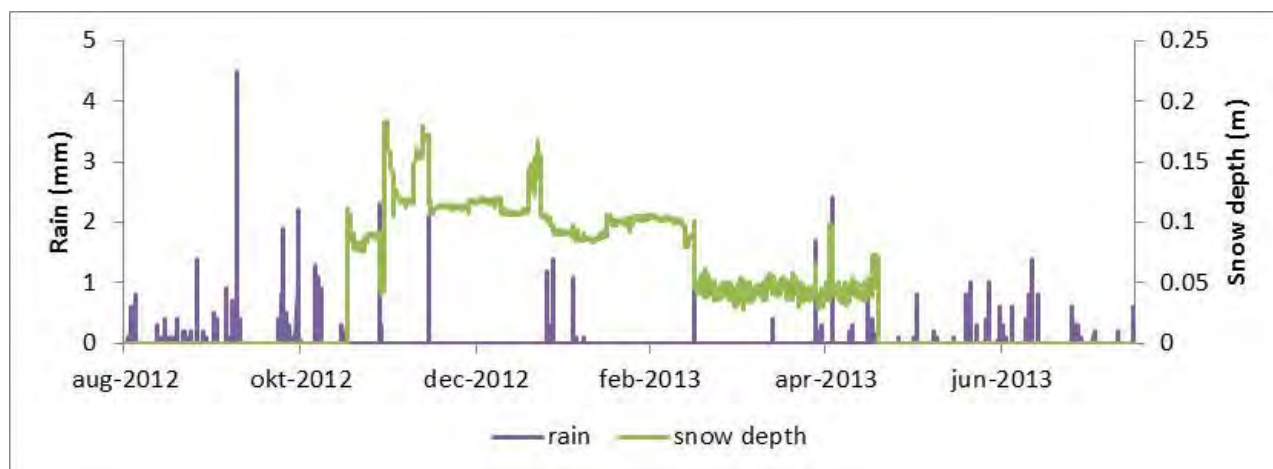


Figure 3.37 Snow depths and precipitation rates measured at the weather station.

Mean soil temperatures measured in the “natural” soil at weather station were  $-0.25^{\circ}\text{C}$  in all of the measured depths (Fig 3.38) with the yearly temperature amplitude decreasing from  $19.5^{\circ}\text{C}$  at the surface to  $6.1^{\circ}\text{C}$  in  $0.75\text{ m}$  depth. The soil was frozen at all depths from the middle of November until the end of May. Soil temperatures within trench P I were slightly higher than in the natural soil and varied from  $0.2\text{--}0.4^{\circ}\text{C}$  in the upper layer to around  $0.0^{\circ}\text{C}$  in the deepest layers (Fig 3.38). The yearly temperature variation in the cultural layers was also higher than in the natural soil and but just as in the natural soil the midden was frozen from mid-December until mid-May.

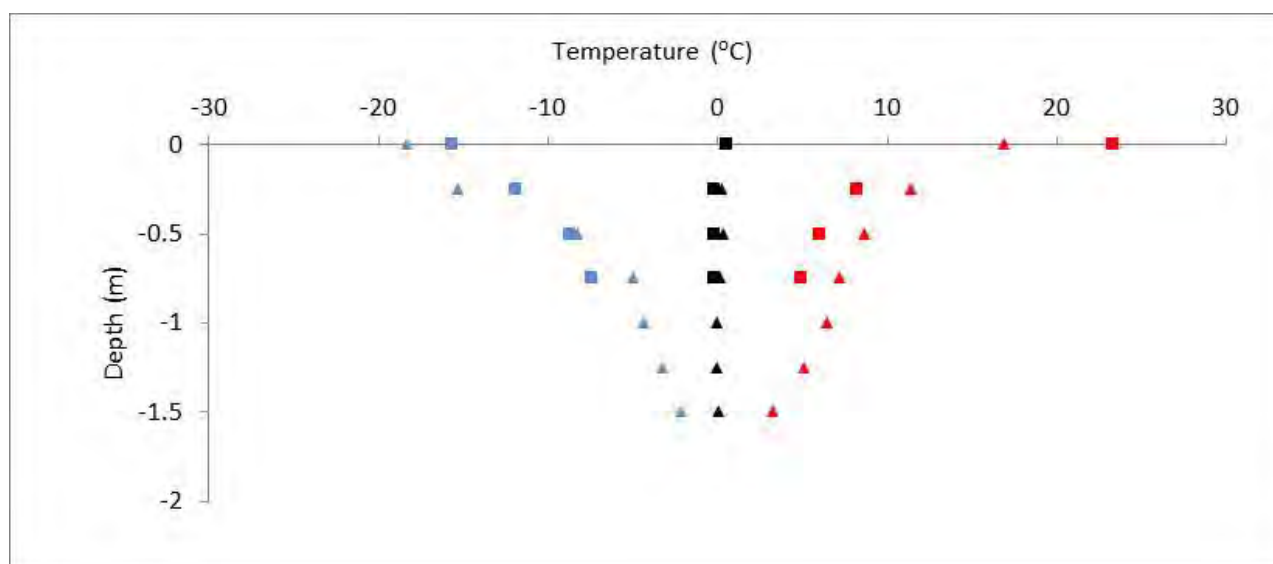


Figure 3.38: Mean (black), minimum (blue) and maximum (red) temperatures measured in the natural soil at the weather station (squares) and in the cultural layer (triangles).

Measurements of temperature were also made in the exposed part of the soil profile next to the trench (fig 3.39). Seen over the whole period soil temperatures in the exposed part were 1.2 °C higher than temperatures in the buried part. With the temperature amplitude being 23 °C in the exposed profile the temperature variation was much larger than in the covered trench (6.1 °C). During the summer a maximum temperature of 30 °C was observed in the exposed profile, which was 10 °C higher than the maximum air temperature and 23 °C higher than the maximum soil temperature registered in the covered trench.

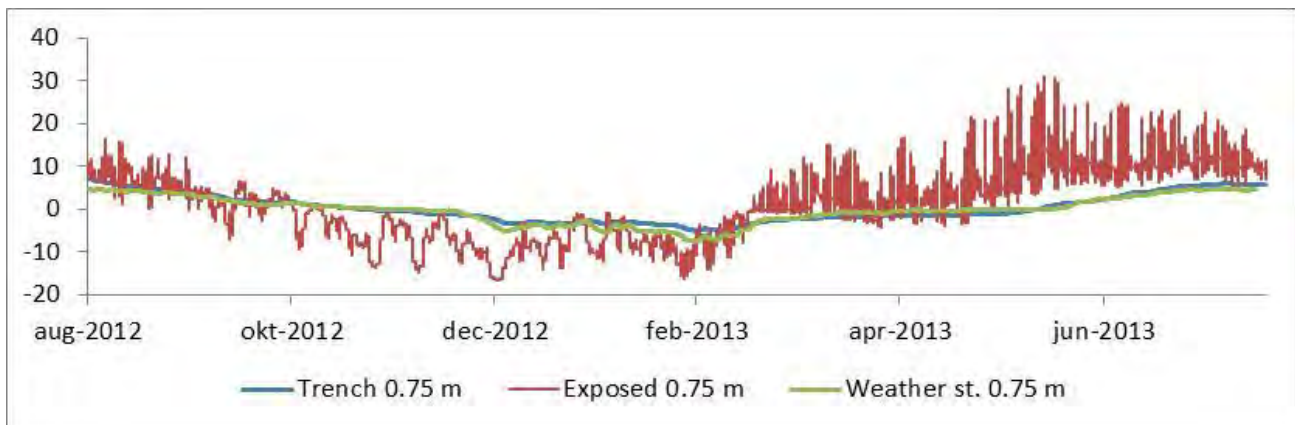


Figure 3.39: Measured temperatures at the weather station, in trench P I and in the exposed profile.

During the observation period the soil water content varied from 8 to 70 vol. % with the highest water content being found in 125 cm depth and with the upper layer being very dry. The peaks in water content seen in 125 cm depth are due to tidal water flooding the area at spring tide – here the water content reaches 70% vol, corresponding to the measured porosity of the soil (i.e. the soil layers are waterlogged).

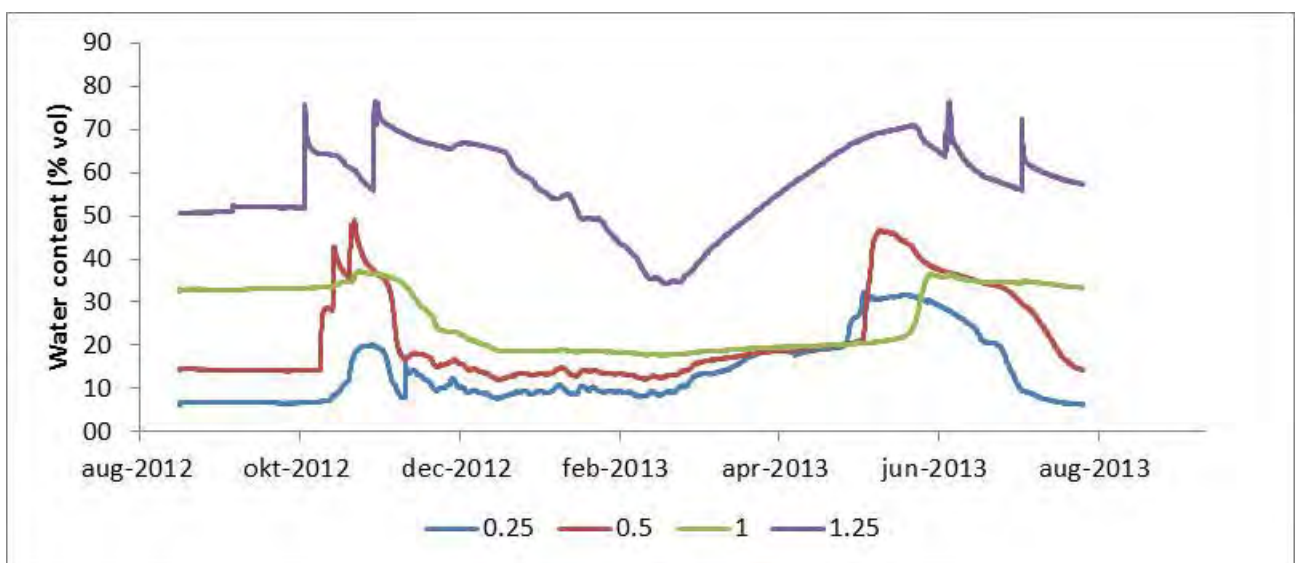


Figure 3.40: Soil water contents measured in trench P I. NB. The drop in water contents during the autumn/winter period is due to freezing.

During the visit in 2012 it was observed that during high tide the seawater could fill some of the old excavation pits and reaches the midden, and with the monitoring data in fig. 3.40 we get an impression of how high the water can reach. This is also reflected in the conductivity measured (fig 3.31) where some of the lower soil strata show a very high conductivity corresponding to a high salt content. This may accelerate thawing of the midden, but the exact effect needs further study.

### 3.3.6 Summary of observations

The observations made at Kilaarsafik/Sandnes are summarized in Table 3.4.

<b>Table 3.4 Summary of observations and results from Kilaarsarfik/Sandnes V51</b>	
<b>Site</b>	V51
Site name	Sandnæs
Museum ref	V51/64-V2-III-511
Date visited	20/8/2012; 26-31/8/2012
<b>Location</b>	
N/W (from handheld GPS, ddd.mm.mmm; WGS84)	N 64°14.604' W 050° 10.510'
Altitude	1 m
Surroundings	Placed at the shoreline in a brackish bay
<b>Description</b>	
Site	Norse farm, 8 ruins and a midden
Midden dimensions	Approximately 80 x 50 m
Maximum depth	150 cm
Vegetation	Long grass on midden, Horsetail in wet areas, willow in some of the buildings
Outline	Distinct front towards the sea. Whole front is covered by vegetation
Photos	No 3391-3416; 3645-3694; 3707-3737
<b>Measurements during visit</b>	
Thaw depth	In trenches: frost at 30-80 cm, in barks frost at 75-150 cm. Drilling was made in one trench where there was at least 70 cm of frozen midden.
Soil temperature	0-8 °C for soil in the shade, up to 18 °C in the sun
Water content	10-70 %, upper layers very dry
Conductivity	30-2500 mS/m
pH	5.5-7. Down to 5 in a few layers
Other	
<b>State of preservation</b>	
Buildings/site structure	Excavated, seem stable, difficult to see due to vegetation
Disturbance	Many trenches and testpits, site highly disturbed
<b>Midden contents:</b>	
Volume excavated during visit	Profile B from 1984 cleaned (approx 0.5x1.5x0.1 m)

Animal droppings	A few found
Textile	None found
Wood	Few wood chips, poorly preserved
Bone	Many found, poorly preserved in the upper dry layers (crumbles), well preserved in lower layers
Turf	Dry and only medium preserved
Other	
State of preservation, in brief	Medium
<b>Samples taken during visit</b>	Soil samples, bones, permafrozen soil
<b>Research potential</b>	
Undisturbed remains?	Patches of midden, and one larger undisturbed area (50 m <sup>2</sup> ). Patches of permafrost (?)
Density of finds	Sampled approximately 80 pieces of bone when cleaning profile P1 (0.07 m <sup>3</sup> )
Areas of research	Zoo-archaeology. Building archaeology limited potential due to damage from willow roots and/or excavated to sterile ground
<b>Outreach potential</b>	Easy accessible. High outreach potential, but needs restoration
<b>Threats (ongoing/expected)</b> - 1st estimate based on brief visit	
Erosion from water/ice, including erosion from waves, boat-traffic, and freshwater	The sea water reaches the midden at springtide, but there is no wave action and no erosion. Some erosion from ice may be expected in winter (?).
Other erosion (wind, animals, visitors)	No erosion from animal has been observed. Some erosion from visitors is observed.
Vegetation, roots	Mainly grass that stabilizes the structure. However, also some Horsetail that may cause damage due to long rhizomes. In many of the excavated buildings there are willow, whose dense network of roots damage the deposits
Drainage	Drainage into open trenches and pits probably ongoing
Melting, heating	Most of the midden is already thawed, but some permafrozen layers were found
Soil movement (including creeping, cryoturbation, slide)	Some takes place, may increase if midden gets more wet
Decay of organic materials	Rate unknown
Other threats	
Future threats?	Sea level rise
<b>Comparison to earlier descriptions</b>	McGovern 1981 writes the site is strongly threatened by erosion and recommends rescue excavation
<b>Monitoring</b>	



Already initiated	Climate station installed. Temperature and water content measured in midden
Suggested	Install automatic camera to document ice action
<b>Important unknowns/ research needed</b>	
	Effect of ice and snow
	Thawing of permafrost
	Decay rate organic material
<b>Mitigation</b>	
Refill trenches	Would improve moisture content on midden and probably raise the frost level if the trenches were backfilled
Backfill	Backfill in the open pits may raise the soil level with permafrost
Erosion protection	-
Cut back vegetation	?
Fencing	not relevant
Rescue excavation	-
<b>Field worker</b>	Aart, Christian, Henning, Morten, Ann, Anders, Mikkel, Paul, Jørgen

### 3.4 Austmannadal, V53d

#### 3.4.1 Landscape and Geomorphology



Fig.3.41 View, looking, SW of ruin group V53d, the second last Norse farmstead in the Austmannadal. The main cluster of ruins are located in and around the green patch in the lower central part of the photograph, in front a great mire (*photo: C.K. Madsen 2012*).

About 10km into the Austmannadal, a small side valley branches off to the north; on the valley floor is a rather large mire and on a drained knoll just above and NE of this mire lies the ruins of V53d (fig.3.41). The site stands out from afar because of its lush vegetation of high grass that has settled on the walls and spoil heaps left by Roussell's 1938 excavation. Below and down slope of the dwelling lies the midden, another type of grass that has been grazed to a neat even surface by sheep and caribou (see below). The slopes surrounding the valley are dominated by rather rich will scrub, which in comparison with Roussell's 1938 photograph is a more recent landscape feature, heather and grass clearly dominating the landscape in the first half of the 20<sup>th</sup> century (cf. fig.3.43).

There is no apparent homefield except for what might have grown on the midden, and patches of grass S of the ruins; following the stream that runs past the farm, one comes to a small kettle shaped valley with a mire and a little grass, but otherwise the farmstead must have depended heavily upon the willow scrub for animal fodder, or the scattered grassland which could have been more prevalent during Norse occupation of the site.

### 3.4.2 Prior Observations and Investigations

V53d was not discovered until 1934, when E. Knuth was directed to the site by his local Inuit guides (Knuth 1944;117p). It is worth noting that Knuth does describe the hike up the Austmannadal as quite taxing, especially because of the dense scrub vegetation, signifying that at least in the lower part of the valley, scrub vegetation was quite expanded (although he describes the prevalent species as alder, Ibid.). However, Knuth photographs clearly reveal that the scrub vegetation was neither as dense, nor as high as that seen in 2012.

Following up on Knuth's discovery, Roussell excavated ruin group V53d in 1937 (Roussell 1941;66p, 179p), and produced the first survey plan of the site (fig.3.42). Roussell excavated all the ruins except no.6, finding optimal preservation conditions with nicely-preserved organic material such as wood and dung/pellets etc. This Roussell attributed to the frozen soils/permafrost, which kept him from fully excavation at least room XVII. He also test trenched the midden, making little note on preservation conditions, but retrieving a reasonable bone selection as well as a few artefacts; regarding the latter Roussel noted (unpubl. field report, National Museum of Denmark) that the midden held quite few artefacts when compared to other sites.

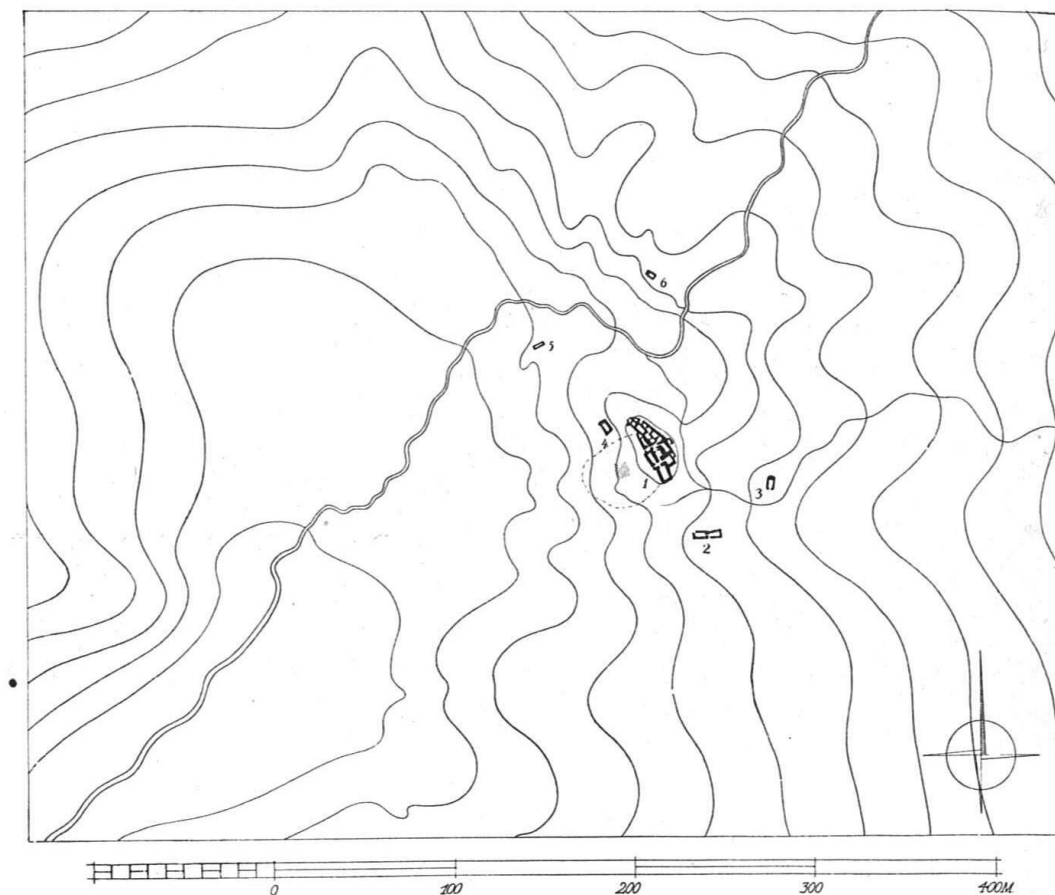
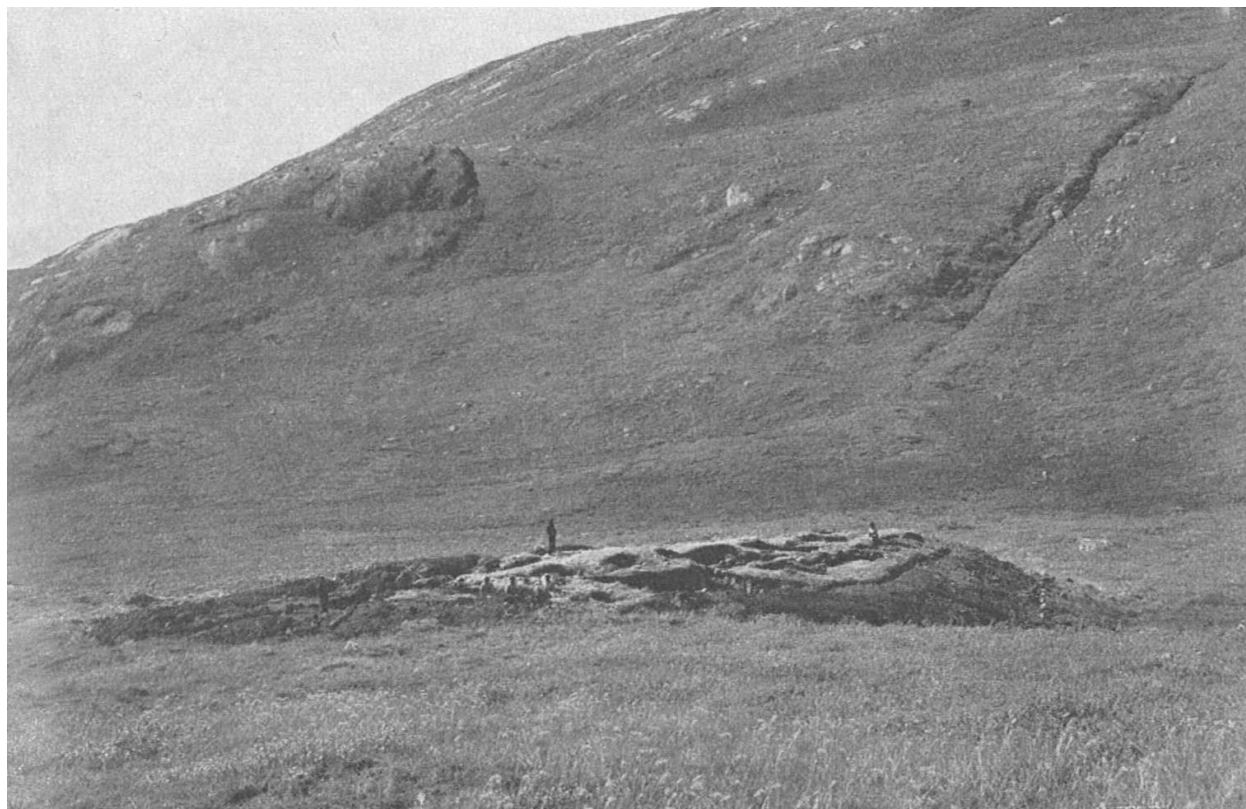


Fig.3.42 Roussell's 1941 survey plan of V53d and the 6 ruins located there (after Roussell 1941;fig.44).



### 3.4.3 Archaeological investigations and evaluation of state of preservation



**Fig.3.43: 1937 photograph of ruin 1, the dwelling, during excavation; note the almost lack of willow scrub compared with the present vegetation (cf.fig.3.1). After Roussell 1944;fig.111**

The ruins of V53d today appear stable; however, except for ruin 6, the ruins have been completely covered with vegetation, ruins 1 and 4 with grass, the others with willow scrub. In spite of intensive and prolonged search for ruin 5, we never managed to find it; if still visible on the surface, it must hide in dense willow scrub along the stream.



**Fig. 3.44** The dwelling (ruin 1) of V53d as it appears today; note the expanded willow scrub (*photo: C.K. Madsen 2012*).

### **V53d trench P I**

Because Roussell made such poor record of the preservation conditions in the midden of V53d, we decided to open a trench at the edge of his 1937 test trench, in order to assert the preservation conditions, provide a section for the installation of monitoring equipment, and, if possible, to secure a stratigraphy for the use of the site and a reasonable bone collection for zooarchaeological analysis. After deturfing the vegetation layer with spade over an area of 2x1m, we continued the excavation with trowel in a 1x0,8 m trench, hoping to expand if possible, and sieving all removed soil in a sieve with a 4mm mesh. We excavated by single contexts, documenting each layer by both drawing and photograph as excavation progressed. It should, again, be noted that it is exceedingly difficult to maintain stratigraphic control when excavating in a small area, and some layers were therefore purposefully lumped and two of the lower layers, unfortunately, mixed do to excavation error (see below).

**Table 3.5 V53d P I midden layers**

Cont.	Description	Interpretation
[01]	Vegetation layer w. roots	Modern vegetation layer
[02]	Mixed brown fine grained silt and partly humified turf w. inclusions of bone, charcoal, pebbles and larger stones, clear boundary to [01] and [02a]	Mixed layer, spoil heap from Roussell's excavation.
[02a]	Brownish red turf partially humified turf, clear boundary to [02] and [03]	1937 vegetation surface (not separated during excavation)
[03]	Mixed yellowish grey silt w. fine grained sand w. inclusions of bone, specks of charcoal, pebbles and fist sized stones, clear boundary to [02a], very unclear to [04].	Mixed midden deposits, like due to soil flux down the slope.
[04]	Mixed greyish brown silt w. fine sand and decomposed turf lumps w. inclusions of many bones, much charcoal, steatite fragments., and pebbles, unclear boundary to [03] and [05]	Several midden deposits that could not be separated during excavation.
[05]	Brownish grey with spots of yellow and red sandy silt with lenses of yellow silt and patches of decomposed turf w. inclusions of charcoal and bones, unclear boundary to [05], clear boundary to [06] and [06a]	Midden layers partly resting against, overlapping, and sliding in between the turfs of [06]
[06]	Mixed layered red, black, light yellow, and light grey decomposed turfs with inclusions of bone and charcoal, clear boundary to [06a].	In the NE corner of the trench [06] consisted of one dense block of turf layers, wall collapse or even wall proper, while in the rest of the trench, the turfs have slit out and mixed with midden deposits, i.e. wall collapse of a building somewhere in the vicinity.
[06a]	Light grey silt w. inclusions of many bones and much charcoal, clear boundary to [06] and [07]	Midden deposit resting against and just slipping in between [06]; unfortunately the layer was removed by error as part of layer [05]
[07]	Grey brown sandy silt mottled w. spots of red turf w. many bones, much charcoal, pebbles, partially dissolved pieces of wood, clear boundary to [06]	Midden deposit
[08]	Dark brown to black turf with inclusions of charcoal, pebbles and bones	Turf wall slide or wall

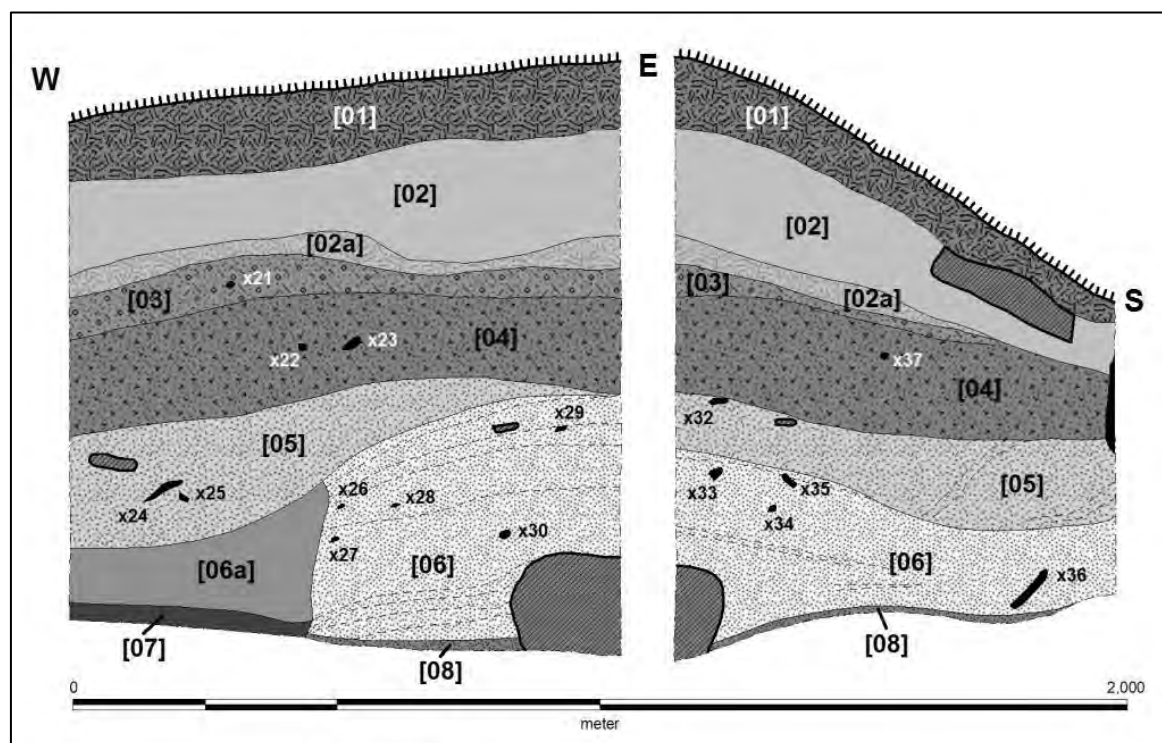


Fig.3.45. Section drawing of the north and east profiles of trench V53d P I.



It is clear from the section drawing and layer description that it was hard to establish a clear stratigraphy in the middle layers, which also accounts for the erroneously removal of unit [6a] along with [05]. Unit [06] did, however, show up very nicely; first believed to be turf lumps/lenses also recorded in the above layers, it actually proved to consist of a dense and thick series of turfs, likely wall collapse or a wall proper as could be suggested also by the large stone in the corner of the trench. In the S part of the trench, the turfs did not lie as nicely and horizontal as in the N part, and included more cultural material.

On the third day of excavation rain set in making it extremely hard to sieve the removed soil; we began water sieving in the nearby stream, but as we would need the soil to backfill the trench, we decided to conclude the excavation. This we did just at the top of layer [07] and [08], the boundaries of which were very clear. Based on the coring down the midden these layers must be very close to the natural aeolian deposits. We then marked the extent of the trench with plastic tape and put down two small perforated mats to mark the level of excavation for future investigations; finally we backfilled and re-turfed.



**Fig.3.46: North section of trench V53d P I (photo: H.Matthiesen 2012).**



**Fig.3.47: East section of trench V53d P I (photo: H. Matthiesen 2012).**

Roussell's section and the 2012 section lies somewhat from the dwelling, i.e. it does likely not represent the thickest midden deposits. Nonetheless and in spite of its very limited extent, trench P I produced an assessed 796 identifiable bones and many hundreds of smaller fragments. Among these are many seal bones (phalanges, ear bones, teeth) indicating that entire seals were making their way up to the most inland farms. This has also been noted for other farms of similar type. However, just as Roussell noted (see above), the midden contained very few other finds; we only recorded 17 artefacts. Bones and, especially in the lowest layers, organic artefacts/material was nicely preserved and the midden has great potential for further investigation and dating of the farmstead.

## V53d trench P II

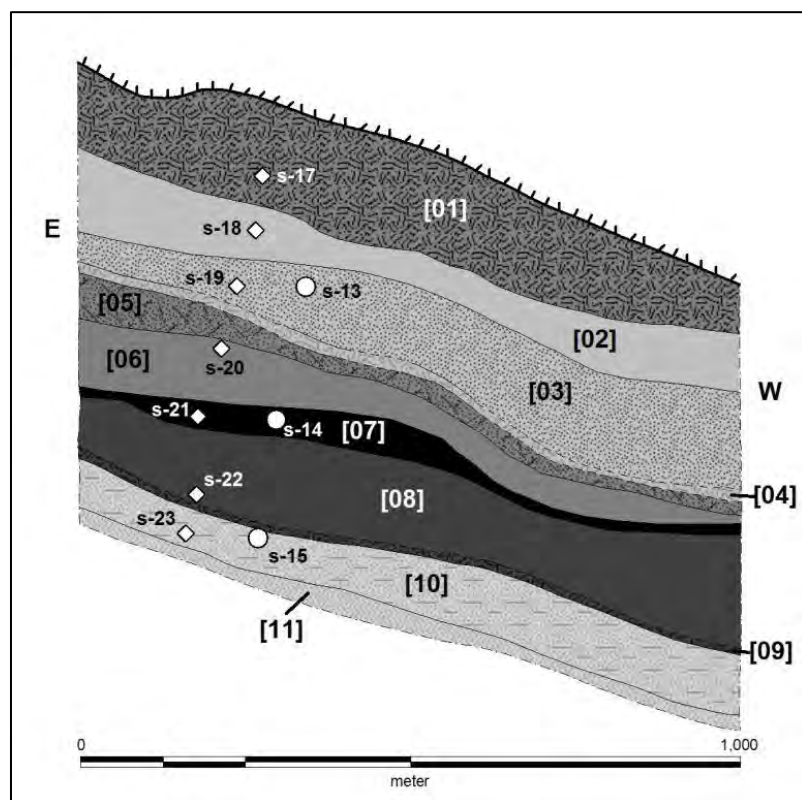


Fig. 3.48: Section drawing of the north profile of trench V53d P II.

The RT A left open from Roussell's 1937 visit made possible the quick and non-intrusive cleaning of a midden section; spading out the soil that had eroded into the trench to make sure we were onto the natural, a 1 m section was cleaned and sketched. Afterwards it was sampled for DNA and the environmental conditions were investigated. 9 bones and 1 steatite frag were removed during the cleaning of the section. Finally, the section was re-cleaned, photographed, and scale-drawn (fig.3.48).

**Table 3.6 V53d P II midden layers**

Cont.	Description	Interpretation
[01]	Present vegetation layer w. roots	Modern vegetation layer
[02]	Grey-brown silt w. inclusions of charcoal, bones, and artefacts	Roussell 1937 spoil heap/mixed midden deposits
[03]	Brown silt w. inclusions of charcoal, bones, and artefacts; very similar to [02] but more organic	Roussell 1937 spoil heap/mixed midden deposits
[04]	Brownish red partially dissolved turf layer w. unclear boundary to [03] and [05]	1937 vegetation surface
[05]	Thin layers of reddish yellow to light grey pure silt interspersed by brown to dark brown silt w. specks of charcoal	Midden deposits interspersed with aeolian deposits.
[06]	Dark brown to light grey-brown fine sand/silt w. charcoal and bone	Midden deposit
[07]	Black to dark brown sandy silt w. much charcoal,	Midden deposit



	in pockets pure charcoal, and bones.	
[08]	Dark greyish brown silt w. lenses of yellow silt, specks of charcoal and a few bones	Midden deposit
[09]	Dark reddish brown silt/dissolved turfs with a few specks of charcoal and with unclear boundaries	Landnám vegetation surface (?)
[10]	Series of layers of pure yellowish grey to light grey silt and very fine sand.	Natural deposits
[11]	Yellow fine silt	Natural deposits

### V53d trench P III

V53d trench P III was made in the same way as trench V53d P II (see above), only it was placed a little further down the slope. After cleaning it was photographed and environmental conditions were measured.

### V53d trench P IV

In his 1941 publication of the excavation of V53d, Roussell describes (184p) how he could not carry through the excavation of ruin 1's room XVII because the soil was frozen; he reached a floor layer which was covered by about 75cm's of sheep manure, i.e. noting excellent preservation. Wanting to ascertain the present state of preservation and to see if there was still frost, we opened a small trench, c.50x50cm, in the very SE corner of room XVII.



**Fig.3.49: V53d trench PIV after cleaning of the upper layers (photo: A.B. Møller 2012)**

Removing the present vegetation layer, we quickly came upon collapse stones (fig.3.49) some having fallen from the walls only after Roussell's excavation. Wanting to keep the investigation to a minimum we simply cleared a space just large enough to take samples and left most of the lower collapse stones in place. Roussell's floor layer came up nicely on top of some stones (fig.3.50), still including lots of organic material and sheep/goat pellets. The layer was then DNA-sampled; in the holes left from the sampling, a further 1, likely 2, underlying floor layers were visible, each



separated by floor leveling with sterile clay. After installing monitoring equipment, the trench was backfilled and closed.



**Fig.3.50: V53d trench PIV on top of Roussell's 1937 floor layer (photo: A.B. Møller 2012).**

### **V53d trench P V**

V53d trench P V was made in extent of P I in order to ensure that HMA would have the sufficient time to install the monitoring equipment; if possible, we would then connect the sections of P I and P V, which proved possible only for the upper layers. The trench, c.20x80cm, was spaded out without sieving. After installing the monitoring equipment, the trench was closed.

### **Summary on archaeological work**

The excavation of V53d P I showed that the midden does still have good preservation producing well-preserved bones and other organic material in the lower layers. With the extension of a few square meters, the midden could produce a statistical sound zooarchaeological collection, sample material for analysis of different organic content.

The willow scrub encroaching on the ruins have probably already done damage to rooms I-V, obliterating any remaining floor layers by root activity. The excavation of trench P IV clearly showed that this room has undisturbed layers of research potential, which must be regarded as threatened by the encroaching willow scrub.

### **3.4.4 Environmental monitoring**

Probing for permafrost was made with a hand corer at approximately 20 places in the midden, forming two transects from the houses and down towards the wetland. A temperature sensor was lowered into the holes from the coring and left until a stable reading was obtained. Permafrost wasn't encountered anywhere in the midden, and the lowest temperature reached was 2.6 °C. In the wetland beneath the midden frozen soil was encountered at approximately 60 cm depth. In P IV in

room 17, where Rousell had stopped the excavation due to permafrost, soil temperatures down to 1 °C were measured, but it is uncertain if there was frost deeper down.

Field measurements of the soil water content, conductivity, pH and soil temperature were made in an excavated profile P V just next to P I (fig 3.46) and the results are given in figure 3.51. All depths are given relative to the soil surface. The different soil strata may be briefly described as: -10 til 0 cm: vegetation layer with roots; 0-14 cm: midden with bones, possibly from soil flow; 14-31 cm: Compact peat which is naturally grown on top of midden; 31-84: midden layer with several bones in a matrix of windblown silt; 84-90 cm: dark silt layer with bones, possibly pressed down in the soil; 90- ?? cm: light colored windblown silt.

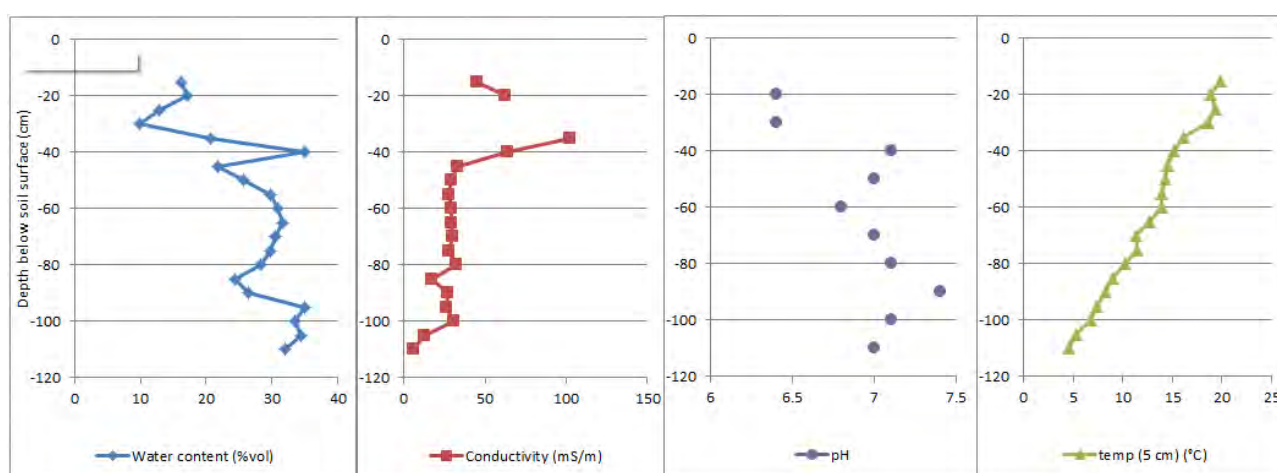


Figure 3.51: Environmental measurements in trench P V at V53D. Water content and conductivity was measured in the outer 5 cm of the profile with a WET probe from Delta-T instruments, pH and temperature was measured with a SS37 probe from IQ instruments. Note that measurements in open soil profiles are not necessarily representative for measurements in the undisturbed parts of the midden, and for instance the measured soil temperature may be strongly influenced by direct sun on the excavated profile.

Soil samples of 100 cm<sup>3</sup> volume were taken at 7, 20, 40 and 80 cm depth for measurement of porosity and organic content, and several wood and bone samples were taken for further studies in the laboratory.

Measurements were also carried out at trench P II and P III giving results that are very comparable to the values shown in figure x, apart from the soil temperature which was significantly lower in the trench (5-10 °C) due to permanent shade.

No modern samples of wood or bone were left at this site.

Monitoring equipment was installed at trench P V, in trench P IV and in the wetland beneath the midden: At P V water content sensors were installed at 15 cm (no 10171776), 30 cm (no 10171777), 50 cm (no 10171780) and 90 cm (no 10171781) below soil surface, and connected to a Hobo datalogger. Furthermore, TinyTags were installed with temperature sensors in air (Tiny1, W),

15 cm (Tiny1, B), 30 cm (Tiny2, W), 50 cm (Tiny2, B), 90 (Tiny3, W), and 110 cm (Tiny3, B) below soil surface.

At P IV Tinytag 653705 was placed with one temperature sensor in air (W), and one sensor 22 cm below soil surface (B). In the wetland beneath the midden Tinytag 653959 was placed with one temperature sensor at 20 cm (W) and one sensor at 40 cm beneath soil surface (B).

### 3.4.5 Summary of observations

The observations made at V53D are summarized in Table 3.7.

Table 3.7 Summary of observations and results from V53D	
<b>Site</b>	V53D
Site name	
Museum ref	V53D/64-V2-III-519
Date visited	21-24/8/2012
<b>Location</b>	
N/W (from handheld GPS, ddd.mm.mmm; WGS84)	N 64°13.603' W 049° 49.157'
Altitude	230 m
Surroundings	Lying on hill slope, ca 15 m above wetland
<b>Description</b>	
Site	Norse farm, seven ruins, and midden
Midden dimensions	Approximately 30 x 50 m
Maximum depth	100 cm
Vegetation	Short grass on midden, long grass on excavated buildings
Outline	No distinct front on midden. Midden has relatively steep slope
Photos	no 3434-3550
<b>Measurements during visit</b>	
Thaw depth	Midden completely thawed. Frost at 70 cm depth in wetland nearby.
Soil temperature	1-10 °C for soil profiles in the shade, up to 20 °C in the sun
Water content	20-30% vol in midden - quite dry
Conductivity	Top midden 50-100 mS/m, bottom 5 mS/m
pH	6-7
Other	
<b>State of preservation</b>	
Buildings/site structure	Excavated, stable
Disturbance	Several trenches through midden
<b>Midden contents:</b>	
Volume excavated during visit	1x0.5x1m
Animal droppings	One found
Textile	None found
Wood	Few wood chips, poorly preserved

Bone	Many found, well preserved, slightly dry/cracked in the upper layers
Turf	Well preserved
Other	Lot of charcoal and organic material
State of preservation, in brief	Good
<b>Samples taken during visit</b>	Artefacts, bones, soil samples
<b>Research potential</b>	
Undisturbed remains?	Yes, large part of the midden
Density of finds	Found 796 bones in excavated volume (0.5 m <sup>3</sup> )
Areas of research	Zoo-archaeology, building archaeology
<b>Outreach potential</b>	Limited due to difficult access
<b>Threats (ongoing/expected)</b> - 1st estimate based on brief visit	
Erosion from water/ice, including erosion from waves, boat-traffic, and freshwater	Very low risk of water erosion, due to distance to stream
Other erosion (wind, animals, visitors)	Very low risk of wind erosion. Some ongoing erosions from animals, but not critical. No damage from visitors.
Vegetation, roots	Mainly grass on midden, that stabilizes it. In the ruin approx. half of the rooms were filled with willow and half were covered with grass
Drainage	Probably ongoing
Melting, heating	Melting took place after Rousell removed the soil from the rooms
Soil movement (including creeping, cryoturbation, slide)	Unlikely due to low water content. Possible some signs of cryoturbation
Decay of organic materials	Rate unknown
Other threats	
Future threats?	
<b>Comparison to earlier descriptions</b>	
<b>Monitoring</b>	
Already initiated	Temperature monitoring in midden and inside building 17. Water content measured in midden
Suggested	
<b>Important unknowns/ research needed</b>	
	Effects of roots (willow)
	Decay rate organic material



<b>Mitigation</b>	
Refill trenches	Could improve moisture content on midden if the trenches were backfilled
Backfill	Backfill in some of the rooms could raise the soil level with permafrost
Erosion protection	
Cut back vegetation	
Fencing	fencing or coverage with geotextile could limit animal erosion
Rescue excavation	
<b>Field worker</b>	Aart, Christian, Henning, Morten, Ann, Anders, Mikkel, Paul

### 3.5 Other Norse sites visited in 2012

On the way out of the Austmannadal the team passed the Norse sites V53a and V53, but time didn't allow a closer registration. Only at one site V52A between the Austmannadal and Kilaarsafik, a stop was made for a few hours.

#### 3.5.1 Environmental monitoring at V52D

Probing for permafrost was made with a walking stick that was pressed down through the soil (mosses). Probing was made at 20 points forming two transects from the houses towards south (10 points with 1 m distance) and towards west (10 points with 1 m distance). A few measurements were made inside the buildings. Permafrost was found at all points at an average depth of 50 cm (varying between 40 to 64 cm across the site).

Paul Ledger made a small testpit for taking pollen samples (fig 3.52).

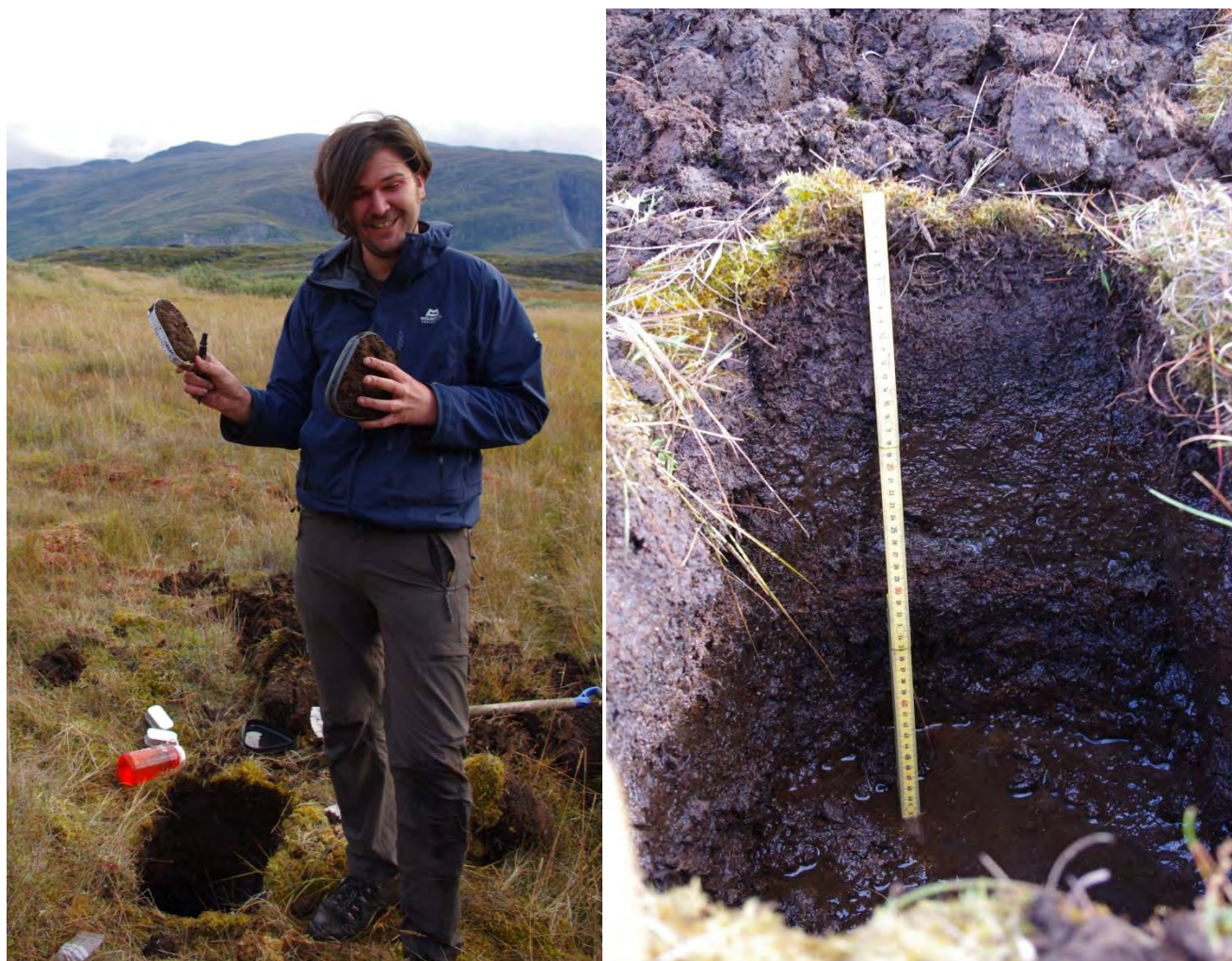


Figure 3.52: Paul Ledger taking pollen samples in the last empty containers: a lunch box and an empty tin used for kippers. To the right is shown the testpit which was dug down to the permafrozen soil.

Field measurements of the soil water content, conductivity, pH and soil temperature were made in the test pit (fig 3.53), where the different soil layers may be described as: 0-18: felted moss; 18-30 cm: moss, more dense; 30-31 cm: silt layer; 31-45: light colored peat “dog meat” 45-50 cm: light colored peat. Ground water level was at approximately 10 cm. All depths are given relative to the soil surface.

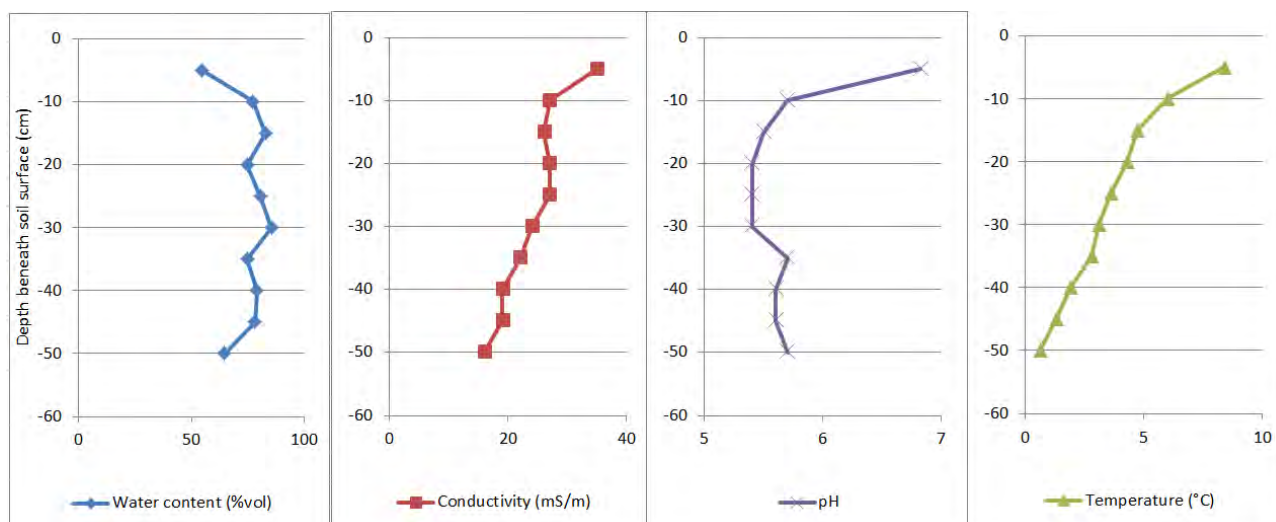


Figure 3.53: Environmental measurements in testpit at V52A. Water content and conductivity was measured in the outer 5 cm of the profile with a WET probe from Delta-T instruments, pH and temperature was measured with a SS37 probe from IQ instruments.

One peat sample and a few wood samples were taken for further studies in the laboratory.

No modern samples of wood or bone were left at this site. No monitoring equipment was installed.

### 3.5.2 Summary of observations

The observations made at V52A are summarized in Table 3.8.

Table 3.8 Summary of observations and results from V52A	
Site	V52A
Site name	
Museum ref	
Date visited	26/08/2012 (2 hours only)
<b>Location</b>	
N/W (from handheld GPS, ddd.mm.mmm; WGS84)	N 64°13.385' W 050° 07.212'
Altitude	117 m
Surroundings	Placed in the middle of a wetland/bog of ca 300x150m
<b>Description</b>	
Site	Norse farm, x ruins and midden,
Midden dimensions	not estimated
Maximum depth	not measured

Vegetation	Mosses on midden, long grass on buildings
Outline	No distinct front on midden, except in old excavation pit. All is covered by grass.
Photos	No3598-3624
<b>Measurements during visit</b>	
Thaw depth	Frost at 50 cm depth
Soil temperature	0-8 °C
Water content	60-80% vol (waterlogged)
Conductivity	Top soil 35 mS/m, bottom 15 mS/m
pH	5.5 (7 in uppermost soil layer)
Other	Ground water 10 cm below ground surface
<b>State of preservation</b>	
Buildings/site structure	Well preserved, seemingly stable. 3 buildings not found.
Disturbance	A few trenches and one testpit in midden
<b>Midden contents:</b>	
Volume excavated during visit	20x30x50 cm, outskirts of midden, fast trialpit for pollensamples
Animal droppings	None found
Textile	None found
Wood	Some pieces found, excellent preservation
Bone	None found
Turf	Very well preserved
Other	
State of preservation, in brief	Not investigated but assumed good to excellent
<b>Samples taken during visit</b>	
	Pollen samples, wood samples, turf samples
<b>Research potential</b>	
Undisturbed remains?	Probably a large part of the midden
Density of finds	Fast testpit for pollen - no other sampling
Areas of research	Zoo archaeology has a high potential, due to excellent preservation conditions including frozen soil layers
<b>Outreach potential</b>	
	Some potential. Very visible drying house at the site
<b>Threats (ongoing/expected)</b> - 1st estimate based on brief visit	
Erosion from water/ice, including erosion from waves, boat-traffic, and freshwater	Some erosion from water may occur, but risk is limited.
Other erosion (wind, animals, visitors)	Some erosion from animals may occur, but risk is limited. No erosion from wind or visitors was observed
Vegetation, roots	No risk
Drainage	Drainage is unlikely, but the damage from drainage would be big.



Melting, heating	Some melting if the temperature increases but the risk is limited
Soil movement (including creeping, cryoturbation, slide)	Unlikely as there is no slope
Decay of organic materials	Estimated to be very low under present conditions (permafrozen or waterlogged)
Other threats	
Future threats?	
<b>Comparison to earlier descriptions</b>	
	McGovern 1981 writes that the midden is very badly damaged from old excavation. We couldn't observe that during the short visit.
<b>Monitoring</b>	
Already initiated	None
Suggested	Find limit of midden, make small pit to study midden content, install temperature logging
<b>Important unknowns/ research needed</b>	
	Risk and rate of permafrost thawing
<b>Mitigation</b>	none required
<b>Field worker</b>	Christian, Henning, Ann, Paul

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## 4.1 Introduction

The investigation of the 2012 ATM field season included inspection and threat assessment of 14 Inuit sites of which only two had been visited or investigated by archaeologists. The remaining sites were known from interviews conducted by Jørgen Meldgaard in 1952 in Qeqertarsuatsiaat and Kangerluarssussuaq (Gulløv 1983:36-38).

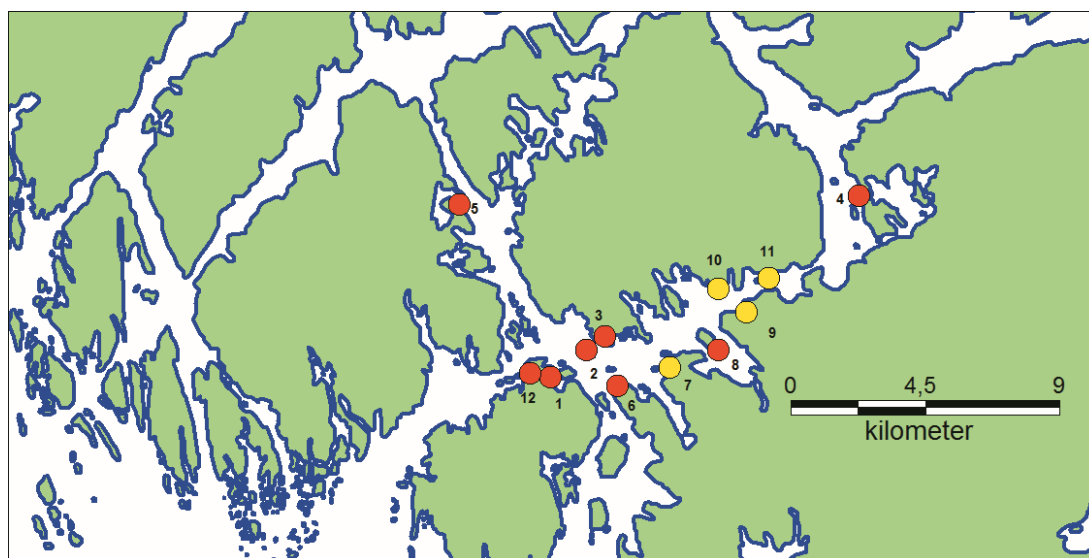


Fig. 4.1 Sites visited during the Inuit team 2012 survey: 1: Illumiut (63V2-III-6), 2: Upernivik (63V2-III-7), 3: Kangillermiut (63V2-III-8), 4: Ammasivik (63V2-III-9), 5: Name unknown 1, 6: Ugarmiut (63V2-III-5), 7: (63V2-III-14), 8: Sassarsuit (63V2-III-15), 9-11 (63V2-III-16, 17 & 18), 12: Qeqertarsuatsiaat (63V2-III-25). Yellow signature marks sites known from Meldgaard's interviews, which were not confirmed by the 2012 survey.



Test excavations, documentation of midden layers and installation of monitoring equipment was carried out at Kangerluarssussuaq and Kangeq. Samples of pollen and bone were also taken at these two sites.

Original documentation and finds from the excavations are kept at the National Museum of Greenland.

Fig. 4.2 Map of the two core sites and the survey area visited by the Inuit team in 2012.



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## 4.1.1 Summary of results:

The assessment results are presented in fig. 4.3 (see Table 5.4 in chapter 5 for a more detailed description of the evaluation method). Monitoring and measurements of preservation conditions by the specialist team have only taken place at the two core sites Kangerluarssussuaq and Kangeq. This makes the P/T index less comparable with the sites documented but not excavated during the survey. Across sites erosion by the sea or in some cases from freshwater from streams or melting ice is the most important threat, whereas human impact poses a lesser threat and vegetation none. Threats to middens are most evident in Kangeq and Kangerluarssussuaq, as most younger middens in the Qeqertarsuatsiaat area is already lost due to erosion. In contrast sites with structures under threat are from the latter area; primarily Upernivik and Kangillermiut.

Site	Name	Preservation	Erosion threat	Human impact	Vegetation	Permafrozen	P/T index
64V1-III-36	Kangeq, structures	3	0	0	0	No	(3/0) 0
	Kangeq, midden <sup>1</sup>	3	2	0	0	No	(3/2) 6
63V1-II-13	Kangerluarsussuaq/Grædefjord, Structures					No	
	Kangerluarsussuaq/Grædefjord, Midden <sup>1</sup>	2	2	0	0	No	(2/2)4
63V2-III-6	Illumiut	-	-	-		-	
63V2-III-7	Upernivik, structures	2	2	2	0	-	(2/4) 8
	Upernivik, middens <sup>2</sup>	-	3	0	0		(-/3)-
63V2-III-8	Kangillermiut, structure	2	2	2	0		(2/4) 8
	Kangillermiut, midden <sup>2</sup>	-	3	0	0	-	(-/3)-
63V2-III-9	Ammassivik	-	-	-	-	-	
	Name unknown 1 structure	3	1	0	0	-	(3/1)3
63V2-III-13	Structures	3	0	2	0	-	(3/1)5
63V2-III-13	Midden	None	None	None	None	None	None
63V2-III-14		None	None	None	None	None	None
63V2-III-15	Savssarssuit	-	-	-		-	-
63V2-III-16		None	None	None	None	None	None
63V2-III-17		None	None	None	None	None	None
63V2-III-18		None	None	None	None	None	None
Accumulated threat		-	14	66	0	-	-

0 = none/no, 1 = low/little, 2 = medium/some, 3 = high/excellent, - = lacking

<sup>1</sup> partly excavated/eroded prior to observation; <sup>2</sup> Midden completely eroded prior to observation

Fig. 4.3 Threat assessment of Inuit sites visited in 2012.

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**Fig. 4.4 Inuit and specialist team members in the colonial harbour in Nuuk. In front Pauline Kleinschmidt Knudsen, Henning Matthiesen and Anders Bjørn Madsen (from the left). In the back Art Kroon, Peter Andreas Toft, Jørgen Hollesen and Paul Ledger (from the left).**

#### 4.1.2 Inuit Team:

PKK: Pauline Kleinschmidt Knudsen

PT: Peter Andreas Toft

PLY: Pipaluk Lyngé

#### Specialist team

PL: Paul Ledger

AK: Art Kroon

HM: Henning Matthiesen

JH: Jørgen Hollesen

ABM: Anders Bjørn Madsen

#### 4.1.3 Field diary

**Aug. 18:** Arrival of PT and AK to Nuuk 13.35. Joined packing of field equipment and supplies with the Norse Team at B43 until 17.00 (see previous diary).

Weather: Cloudy

**Aug. 19:** Arrival of HMA and ABM to Nuuk. Continued packing and a short logistics meeting. Joined dinner by the full Norse and Inuit teams at B43.

Weather: Cloudy

**Aug. 20:** Departure of the Inuit Team from the colonial harbour by chartered boat at 10.30. Arrived at Qeqertarsuaat at 14.30. Loading of equipment and supplies. Interviews with local residents John Berglund and Jonathan Jacobsen conducted by PKK and PLY. John Berglund

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pointed out several sites with house remains and also informed us, that a Norse wooden coffin had been observed by his father at a secret (unknown) location. According to John Berglund several beautiful European gravestones had disappeared from Akunnaat (Lichtensfels). This was the work of outside people. Additionally many historical sites in the Qeqertarsuatsiaat and Kangerluarsussuaq area including a couple of Norse sites were pointed out by Jonathan Jacobsen. This informant also provided information of life at Kangerluarsussuaq where he lived as a child. This information was supplemented by several local tales. At the communal office, where the interview was conducted, hangs the last kayak in use at Qeqertarsuatsiaat, which was put ashore in 1960. Assembly of rubber dingy. Sleeping at the communal lodging house at 23.00.

Weather: Cloudy.

**Aug. 21:** Departure from Qeqertarsuatsiaat delayed by fog. Interview with Ane Boasen at the old peoples home conducted by PKK and PLY, whereas another resident Dorte Nathanielsen were unable to participate. Ane Boasen informed us about the hunting and ammassatcatching sites of her childhood. Engine problem solved with local help; departure at 13.00. Problems with boat assembled incorrectly. Establishment of first survey base camp (Q1) east of 63V2-III-10.

Weather: Foggy in the morning, sunny in the afternoon.

**Aug. 22:** Reassembly of boat and packing of field equipment. Departure at 11.00 from camp Q1. Engine problems. Survey of the stretch from 63V2-III-18 to 8 on the northern site of the fjord. We observed two sea eagles during survey. Only 63V2-III-8 looked promising from the seaside. Worked until 21.00.

Weather: Foggy in the morning, clear and sunny in the afternoon.



**Fig. 4.5** Pauline Kleinschmidt Knudsen and Pipaluk Lyng interviewing Jonathan Jacobsen in Qeqertarsuatsiaat.

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**Aug. 23:** Departure from Q1 delayed to 12.00 due to fog. Further engine problems. Visit to Qeqertarsuatsiaat at 13.00 in order to arrange return travel to Nuuk for PLY due to a health problem. Continued survey on the southern coast of the fjord. Localised 63V2-III-6 with 3-4 visible turf houses. A possible house structure was found in deep vegetation on a point the way to 63V2-III-13. No structures were found at 63V2-III-13 and 14. At 63V2-III-15 numerous cairns and fox traps were found but no house structures. Further no house structures were found at 63V2-III-9, which according to the place name should be a catching spot for ammassat. Refueling and dinner at Qeqertarsuatsiaat, where PLY would stay the night in order to catch the weekly ferry back to Nuuk. Arrival by PKK and PT at camp Q1 at 21.00.

Weather: Foggy in the morning, clear and sunny in the afternoon.

**Aug. 24:** Departure from Q1 at 10.00 by PKK and PT to survey of 63V2-III-7. After surveying the nearest island on which a tent house was found we proceeded to 63V2-III-7, where a very eroded winter house, a tent ring, a tent house, 8 graves, the remnants of a cairn and a couple of meat caches were found. Minor engine problems and approaching fog on the way back to camp Q1, where we arrived at 20.15.

Weather: Clear and sunny during the day, foggy in the evening.

**Aug. 25:** Departure for 63V2-III-7 at 10.00 without engine problems! Documentation of the remaining house structures and the discovery of 3 new, tent houses and an outdoor hearth. Continued to 63V2-III-8 where numerous structures were found; among these 4 winter houses two trapezoid and one rectangular tent house, graves, cairns, fox traps and a cooking spot and three play houses laid with white gravel.

Weather: clear and sunny.

**Aug. 26:** Departure for 63V2-III-8 at 10.00. Intense documentation of numerous structures. At 14.00 we discovered, that the rubber dingy was stuck between stones due to low tide, but managed to lift it free of the stones of anchor it at a different position. We discovered an eastern part of the site with additional 31 house ruins. Documentation and measuring of structures continued until 20.10. Sailing from the site towards Q1 the dingy was suddenly filled with water and we headed ashore and emptied the dingy of equipment. Tried to reach camp Q1 by foot before darkness, but had to seek shelter under a rock outcrop at 24.00 as darkness became complete. Watched stars and polar aurorae until first light the following day.

Weather: Clear and sunny, slight wind

**Aug. 27:** Got up at 04.00 and walked to camp Q1, where we arrived at 07.00 and went to sleep. Woke up at 11.00 to beautiful sunshine and ate breakfast. Called the local communal office at Qeqertarsuatsiaat for help and packed down the camp and was picked up by the retired fisher Tim



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Serritslev. We arrived at a new base camp position south east of Qeqertarsuatsiaat at 15.00 and established a new base camp (Q2) and repacked field equipment.

Weather: Clear and sunny

**Aug. 28:** Pick up by Tim at 09.00 and salvaged the abandoned rubber dingy, which was sailed to Qeqertarsuatsiaat. At the same time we booked a room at the local school for a citizens meeting at Aug. 30 and a room at the communal lodging house. At 13.00 we departed for 63V2-III-5 and 13; a big rectangular tent house, two tent rings, several graves and some fox traps reused in modern times were found and documented. Worked until 20.00 when Tim arrived with the precision GPS collected in Qeqertarsuatsiaat and sailed us to Camp Q2.

**Weather** Sunny with a cool breeze from the east.

**Aug. 29:** Pick up at 9.00 by Tim to the eastern part of 63V2-III-8. GPS measuring of most house structures and documentation of these and other structures. Worked until 20.00. Returned to camp Q2 with Tims Serritslevs boat.

Weather: Cloudy with occasional showers.

**Aug. 30:** Packing of camp before departure to the eastern part of 63V2-III-8. Setup of precision GPS at 11.00, calibration finished at 13.00. GPS measuring and documentation of the remaining structures finished at 16.00. Picked up by Tim at 16.30 and arrived at the Q2 camp at 17.00 and picked up all equipment. Returned to Qeqertarsuatsiaat at 17.30 and had a short dinner at the communal lodging house after hauling all equipment there. At 18.30 we arrived at the school and prepared for the citizens meeting at 19.00. Ten people turned up at the meeting and heard our presentation, asked many questions and gave a lot of information on Inuit and Norse sites and tales and myths connected to these places. Especially fishermen and Jonathan Jacobsen provided a lot of new information. Many wished for signs or flyers with information of cultural heritage sites. A meeting in very good spirit ended at 21.00.

Weather: Cloudy and windy with showers.

**Aug. 31:** At 9.00 we packed the rubber dingy, which will be sent as freight directly to Nuuk. Filling out freight forms. PKK surveyed the ridge behind Qeqertarsuatsiaat, where we learned of several threatened monuments at yesterday's meeting. PT repaired equipment. Transportation of equipment to the harbour. Pickup by chartered boat at 17.00, which took us to Kangerluarsussuaq, where we met up with the remaining Norse team members HMA, JH, ABM, AK and PL. Establishment of base camp.

Weather: cloudy until noon, when it became foggy and later clear and sunny

## 4.1

## INUIT SITES 2012

## INTRODUCTION AND SUMMARY RESULTS

## 'PEOPLE OF ALL TIMES' - 2012 FIELD REPORT

**Sept. 1:** A short morning meeting at 9.00 coordinating tasks of the day followed by a common walk around the site and on site discussion. Most of the houses are small rectangular or square dating to the 19<sup>th</sup> century, many with preserved collapsed roofs and artefact scatters. HMA, PT and PKK tried to reconstruct the viewpoint of Jørgen Meldgaards photo of the midden and estimate the erosion rate since 1952. JH and ABM cored the midden but discovered no traces of permafrost although the midden may be frozen in the winter. AK put up the precision GPS and measured the preserved house structures. PKK and PT further started cleaning a 1m. wide section of the midden profile and observed a compact bone layer in the upper part of the midden, very variable preservation conditions for bone in different depths and remains of collapsed stone tiles used for drywalls in houses in the bottom of the midden. HMA measured salinity and electric conduction ability in the midden layers. PL took pollen samples in the small bog east of the settlement. The middens seem to be eroded from behind by melting water rather than the sea. Work ended at 20.00.

Weather: overcast with a little rain and strong wind from the south.

**Sept. 2:** PKK and PT continued the cleaning of the profile. AK measured the coastline and landscape around the site including the erosion front of the midden. Work ended at 19.15.

Weather: overcast with rain and strong wind from the south.

Weather: overcast with a strong wind from the south.

**Sept. 3:** PT documented artefacts scatters in and around the houses and the graves not situated at the cemetery vest of the site. PKK finished the cleaning of the profile and the profile was drawn by PT. Observation: Mussels are equally well preserved in the top and bottom, whereas bones are best preserved at the top and wood in the bottom. Interpretation of layers was discussed by HMA, PKK and PT. JH and PL packed field equipment. PT and AK documented the houses and found a trapezoid tent house and a cooking spot.

Weather: rainy with strong winds from the south.

**Sept. 4:** PT photo documented the cemetery in the western part of the site. Other team members packed the last equipment. Pickup by chartered boat at 11.00 heading for Kangeq, where we arrived at 14.30. Establishment of base camp at the western part of the settlement.

Weather: Sunny and windy.

**Sept. 5:** Localisation of the old profiles of the 1983 excavation conducted by Gulløv and Ilkjær. JH, HMA and ABM collected samples at profile C of the midden. JH found traces of permafrost in the same area. PKK and PT began cleaning a small section of profile A and PT photo documented profiles A-C. JH began establishing a monitoring station on the top of profile.

Weather: sunny with strong winds.

## 4.1

## INUIT SITES 2012

## INTRODUCTION AND SUMMARY RESULTS

'PEOPLE OF ALL TIMES' - 2012 FIELD REPORT

**Sept. 6:** JH finished assembling the monitoring station. ABM cored and collected bone samples, which were evaluated with assistance from HMA and PKK. PKK and PT finished the cleaning of the profile, which was drawn and photo documented. PT and AK measured and photo documented the erosion fronts of profile A-E.

Weather: sunny with strong winds.

**Sept. 7:** PKK, AK, HMA and PT produced a wooden protective screen for the cleansed part of profile A in order to protect it and possibly use it for future dissemination purposes. JH and ABM packed equipment. Departure from Kangeq at 13.30 with arrival at Nuuk an hour later. Unpacking and repacking of equipment and samples in B43.

Weather: sunny with strong winds.



**Fig. 4.6** Pauline Kleinschmidt Knudsen, Henning Matthiesen and Anders Bjørn Møller collecting bone samples at Kangeq

**Sept. 8:** Project meeting and R &R in Nuuk. Repacking by HMA and JH for later field work in the Disko Bay.

Weather: Sunny

**Sept. 9:** Departure by AK and ABM for Copenhagen. Meeting at the Greenland National Archives and Greenland Nature Institute. PKK, CKM, JH and PT were interviewed to Nuuk TV. Discussion of bone preservation by PKK, ANLE, PT and CKM.

Weather: Rain and strong winds.

**Sept. 10:** Preparation of presentations of the projects results for the public by PKK, CKM, JH and HMA the following evening. PKK presented the new NKA exhibition on Greenlandic Paleo-Inuit and Norse prehistory at NKA.

Weather: Rain and strong winds.

**Sept. 11:** Departure for Copenhagen by PT.

## 4.1

## INUIT SITES 2012

## INTRODUCTION AND SUMMARY RESULTS

'PEOPLE OF ALL TIMES' - 2012 FIELD REPORT

Weather: Rain and strong winds.



## 4.2 Kangerluarsussuaq/Grædefjorden (63V1-II-13)

### 4.2.1 Introduction



**Fig. 4.7 The Kangerluarsussuaq site seen from the south. The grass covered midden is visible in the pictures central part.**

The Kangerluarsussuaq/Grædefjord settlement (63V1-II-13) is situated 4 km S of the Kangerluarsussuaq Fjord at the coast. The site was abandoned in 1959 (Gulløv 1983:34).

The site was first visited in 1952 by Jørgen Meldgaard, who in a short entry in his field diary describes the midden as 3.5 m. high with well-preserved organic material in most of the upper part. Further a few photographs of the midden were taken during the visit (Gulløv 1983:33f) – Figure x.

During the 2012 field campaign a 1 m. broad profile (profile A) was cleaned and documented in midden A in order to observe and measure present preservation conditions (fig. 4.8 & 4.9). Further the ruins and coastline was measured by precision GPS and a photographic documentation was conducted of the erosion front of midden A and B. The investigation also included coring for soil samples and permafrost, retrieving pollen samples from the settlement area and the bog behind the

## 4.2

## KANGERLUARSUSSUAQ/GRÆDEFJORDEN

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Fig 4.8: Profile A under excavation.

midden, inserting modern bone and wood samples for testing the variability of preservation conditions and setting up a monitoring station measuring the water content and temperature of the midden layers. During the 2013 field campaign the photo documentation of midden A and B was repeated and data was collected from the monitoring station set up in 2012. Further the site was surveyed to recognize any changes in the structures and surface scatters.

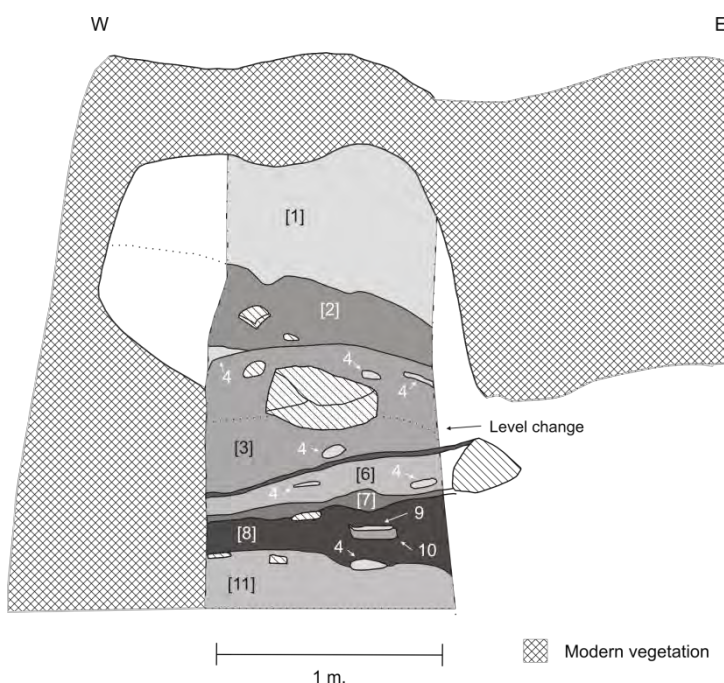


Fig. 4.9 Kangerluarsussuaq midden, section A.

## Profile layers:

1. Brown loose sandy turf with many well-preserved bones and mussel shells.
2. Brown degraded organic soil without any finds, more compact than 1.
3. Dark brown compact turf with bones, wood and mussels in varying degree of preservation. Organic material is better preserved below the stone.
4. Fine Light greyish yellow sand.
5. Fine compact charcoal-saturated turf with very few finds.
6. As layer 3.
7. As layer 5.
8. As layer 3.
9. Area with wooden planks
10. Layer of burnt bone.
11. As layer 3, but with a higher content of silt and more preserved wood.

The preservation conditions in the midden varies significantly with wellpreserved bones and mussel shells in the top layers 1 and 3 and preserved wood and burned bones in areas of layer 8.

### 4.2.2 Monitoring

Probing for permafrost was made with a steel probe and hand corer at approximately 10 places in the midden 1<sup>st</sup>-3<sup>rd</sup> of September 2012. Probing was difficult due to a lot of stones in the soil, but in one case it was possible to drill to a depth of 219 cm, in which bedrock was encountered. No evidence of frozen soil was found, and the lowest temperature measured in any of the drillings was 1 °C.

In the same way, probing was carried out in the bog at the site. Here, no evidence of permafrost was found either. In one case it was possible to drill to a depth of 110 cm, in which the temperature was 5.2 °C.

Field measurements of the soil water content, conductivity, pH and soil temperature were made in the cleaned profile A (fig x), in profile B (ca 2 m north of profile A), in hole no 8 (ca 1½ m behind profile A) and at selected sites around the midden to check for variability.

The results from profile A are given in figure 4.10. All depths are given relative to the soil surface. The different soil strata may be described as: 40-50 cm: modern vegetation; 50-55 cm: root felt; 55-90 cm: layer consisting primarily of well preserved bone, shells still contain calcium carbonate; 90-100 cm: bone-rich layer, several shells have lost calcium carbonate; 100-130 cm: dense organic layer with almost no finds; 130-170 cm: organic layer with some bones; 170-230 cm: several light/dark layers with a lot of wood and some charcoal. Soil samples of 100 cm<sup>3</sup> volume were taken at 90, 130, 180, 220 cm depth for measurement of porosity and organic content, and wood samples from 220 cm depth were taken for further studies in the laboratory.

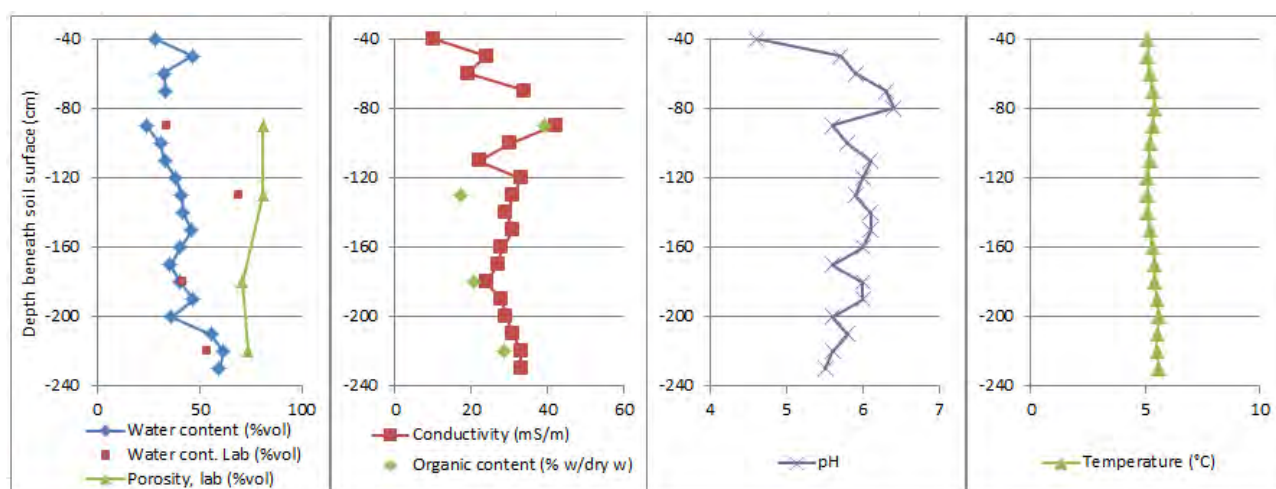


Fig. 4.10: Environmental measurements in profile A at Grædefjorden, 3<sup>rd</sup> September 2012. Water content and conductivity was measured in the outer 5 cm of the profile with a WET probe from Delta-T instruments, pH and

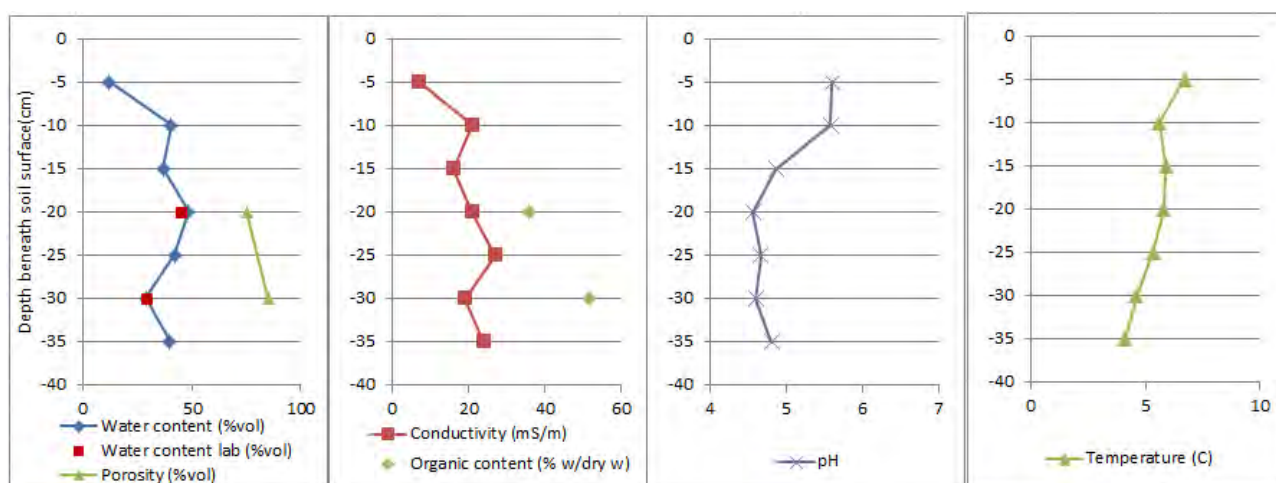


temperature was measured with a SS37 probe from IQ instruments. Porosity, organic content and water content was measured in the laboratory for 4 ring samples. Note that measurements in open soil profiles are not necessarily representative for measurements in the undisturbed parts of the midden.

The results from profile A shows an increasing water content with depth, but none of the midden layers are completely water saturated. The conductivity values are relatively low especially when considering the short distance to the sea – one would expect a frequent input of salt for instance from spray, so the low conductivity indicates that salt is removed or diluted by rain or by freshwater seeping through the midden from behind. The pH values are relatively low, which may influence the preservation of materials like bone and shells.

Measurements were also carried out at profile B approx. 2 m north of profile A, giving results that are very comparable to the values shown in figure x. Measurements at selected points across the midden generally showed results within the same ranges, and only in very few low lying points the conductivity was higher ( $> 200$  mS/m) due to direct influence from sea water.

In hole no 8 measurements and soil samples were taken in the upper 40 cm of the soil, showing slightly lower conductivities (7-20 mS/m) and pH values (4.6-5.6) – figure x. The soil samples were very organic (36-52 %) and had a high porosity (75-85 % vol). The water content was below 50% vol at all depths, and there was a good correspondence between the field measurements with a WET probe and laboratory measurements – these data were later used to calibrate the Hobo water content sensors permanently installed in the hole (figure 4.11).



**Fig. 4.11: Environmental measurements in hole 8 at Grædefjorden, 3<sup>rd</sup> September 2012. Water content, conductivity and temperature was measured in the outer 5 cm of the profile with a WET probe from Delta-T instruments, pH was measured with a SS37 probe from IQ instruments. Porosity, organic content and water content was measured in the laboratory for 2 ring samples.**

Modern samples of wood and bone were left in profile B (at 140 cm, samples F19-F23, A19-A23 and K19-K21) and in hole no 8 (at 30-40 cm depth, samples F24-F28, A24-A28 and K22-24).



In 2012 temperature sensors were installed 30 cm above the surface (air temperature) and in hole no 8 at 0, 25, 50, 100 and 175 cm depth. Additional temperatures sensors were also installed in profile A at 50 and 100 cm depth. All temperature measurements were made using Gemini PB-5001 temperature probes connected to 4 Gemini Tinytag (Tgp-4520) dataloggers. Hobo (S-SMx-M005) soil water sensors were installed in hole no 8 at 5, 20 and 60 cm depth and connected to a Hobo Micro Station.

The monitoring data was downloaded in 2013 and is shown in fig 4.12-4.15. During the observation period from the beginning of September to mid-August the mean soil temperatures varied from  $-0.5^{\circ}\text{C}$  at the surface to  $1.35^{\circ}\text{C}$  in the deepest layers during (Fig 4.12). The yearly temperature amplitude at the surface was  $10^{\circ}\text{C}$  which was somewhat lower than in the air ( $13.5^{\circ}\text{C}$ ). The temperature amplitude decreased with depth and was  $1.4^{\circ}\text{C}$  in the deepest part of the midden. Only the upper 1 m of the midden was frozen during the winter whereas temperatures below 1 m were above  $0^{\circ}\text{C}$  all year round. Measurements of temperature were also made in the exposed profile A. Seen over the whole period soil temperatures in profile A are identical to the temperatures in hole 8. However, with temperature amplitudes of  $8.9^{\circ}\text{C}$  (0.5 m) and  $4.8^{\circ}\text{C}$  (1.0 m) in the profile compared to  $3.4^{\circ}\text{C}$  and  $2.1^{\circ}\text{C}$  in hole 8, the temperature variation is much larger in the exposed profiles.

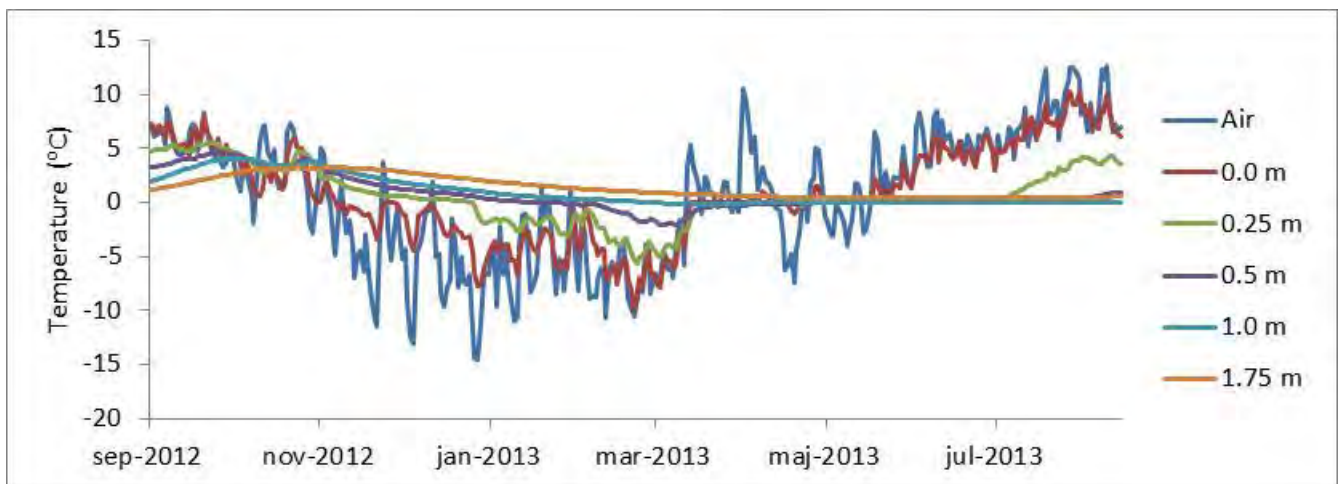


Fig. 4.12: Air temperature and soil temperatures measured in hole 8.

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Fig. 4.13: Comparison between soil temperatures measured in hole 8 and the exposed profile A.

During the observation period the soil water content varied from 15 to 55 vol. % with the highest water content being found in 20 cm depth and 60 cm depths and with the upper layer being fairly dry. For comparison the soil porosity was measured to 75% at 20 cm depth, and 85% at 40 cm depth, i.e. the soil was probably not water saturated even during the wet periods.

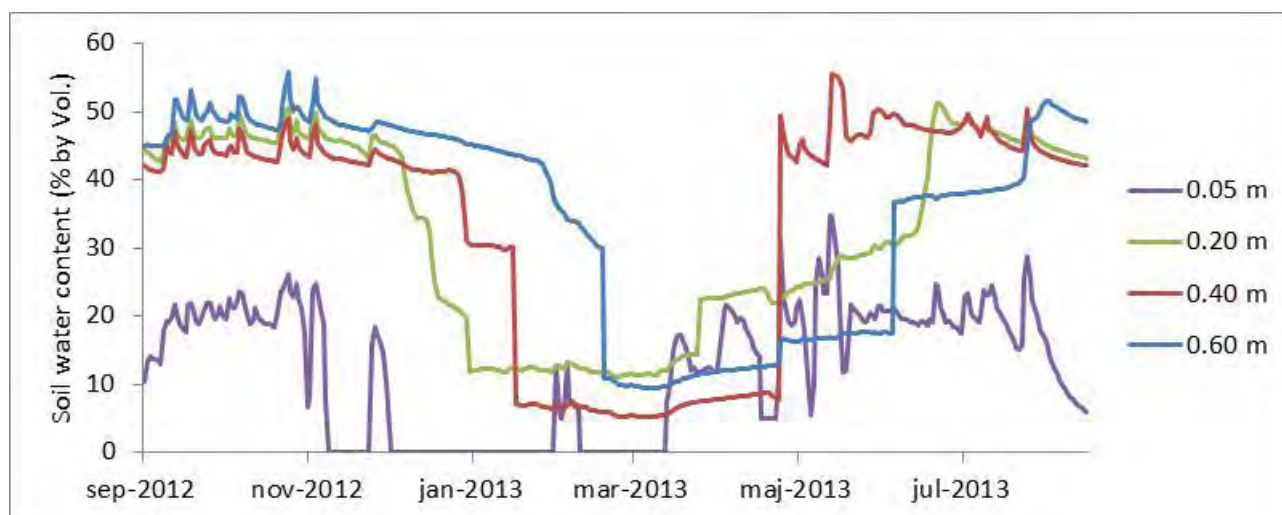


Fig. 4.14: Soil water contents measured in hole 8. The data was calibrated using the wet probe measurements and values of porosity seen in figure 4.11. NB. The drop in water contents during the autumn/winter period is due to freezing.

Comparison was made to old photographs taken at the site (figure 4.15)

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**Fig. 4.15 Comparison between photo taken by Jørgen Meldgaard in 1952 (upper) and during the field work in 2012 (lower)**

Several of the stones and cracks in the rocks can be recognized on both photos in figure x, and it is estimated that right behind the person an area of approximately 2x2 m of the midden has disappeared during the 60 years. Furthermore in the right side of the 1952 photo the midden



vegetation is very close to the photographer, which is not the case in 2012, and it is estimated that in this area (where profile A and B are situated) up to 3x5 m of the midden have disappeared.

At several places across the midden it was observed that erosion mainly takes place from “behind” where freshwater flowing through or underneath the midden layers slowly flushes out soil material and undermines the midden. East of section a Stacks of stone tiles originally used as part of a dry wall is lying vertically in front of the midden. This indicates that the 19<sup>th</sup> and 20<sup>th</sup> century midden overlays older dwelling structures and the middens connected to these have been lost to erosion, probably by the sea.

### 4.2.3 Structures

**Structure 1:** Square well with sides of wooden planks; 0.7 x 0.7 m. Half of the planks are still in situ. The well is located 1.5 m. from the stream.

Coordinates; N: 63° 18' 06.8'' 9 m. asl.  
W: 051° 05' 56.1''



Fig. 4.16 Kangerluarsussuaq, structure 1.



Fig. 4.17 Kangerluarsussuaq, structure 6.

**Structure 2:** Rectangular house with entrance in the SW.

**Structure 3:** Rectangular concrete foundation.

**Structure 4:** Triangular building of stone and turf. Possibly outhouse for structure 3.

**Structure 5:** Small rectangular house with passage towards SW. Heavily overgrown with grass.

**Structure 6:** Small square outhouse with remnants of a wooden roof inside.

**Structure 7:** Big rectangular house with entrance towards SW, which turns towards W.

**Structure 8:** Big square house with entrance towards the S. The house floor is raised in the SE corner.



**Structure 9:** Rectangular house. The northern wall is missing. Windbreak in the W.

**Structure 10:** Rectangular house. House passage towards NW, which turns towards W.

**Structure 11:** Rectangular house with entrance towards NW, which turns towards W. A wooden plank is seen inside.

**Structure 12:** Rectangular house with entrance in the W. Remnants of the wooden door is preserved in situ in the passage. Is sharing wall with structure 13.



Fig. 4.18 Kangerluarsussuaq, structure 12.

**Structure 13:** Rectangular house with entrance in WSW.

**Structure 14:** Trapezoid house with double entrance in W.

**Structure 15:** Small rectangular concrete foundation.

**Structure 16:** Possibly a tent house. Structure is very overgrown and difficult to interpret.

**Structure 17:** Square concrete fundament with iron bolts and a small windbreak in the south.

**Structure 18:** Rectangular house. The walls are higher towards the east. Entrance between two rock projections. Fragments of an iron stove inside.



Fig. 4.19 Kangerluarsussuaq, structure 18.

**Structure 19:** Big indeterminable structure of stone and turf. Foundation?

**Structure 20:** Shelter beneath a boulder.

**Structure 21:** Cooking place built of rocks. Numbered as structure 19 in the notebook by error.

Coordinates; N: 63° 18' 09.0''      11 m. asl.

W: 051° 06' 00.3''

**Artifact scatter 1:** Enameled cauldron with horizontal bulb; lacking bottom and handle. 0.38 m. in diameter.

Coordinates; N: 63° 18' 08.1''      11 m. asl.

W: 051° 05' 59.8''



**Artifact scatter 2:** Rectangular corroded iron stove-part or fuel-container. 0.4 x 0.2 x 0.3 m.

Coordinates; N: 63° 18' 68.6''                      12 m. asl.

W: 051° 05' 59.4''

**Artifact scatter 3:** Fragment of corroded Iron cauldron with horizontal bulb and legs. 0.3 m. in diameter.

Coordinates; N: 63° 18' 08.7''                      8 m. asl.

W: 051° 05' 59.4''

**Artifact scatter 4:** Fragment of corroded oil drum. 0.5 x 0.3 m.

Coordinates; N: 63° 18' 09.2''                      10 m. asl.

W: 051° 05' 00.5''

**Artifact scatter 5:** Corroded oil drum. 0.4 x 0.85 m.

Coordinates; N: 63° 18' 10.3''                      9 m. asl.

W: 051° 06' 02.0''

**Artifact scatter 6:** Cauldron-rim with white enamel on the in- and outside. 0.3 m. in diameter.

Coordinates; N: 63° 18' 10.8''                      10 m. asl.

W: 051° 06' 00.2''

**Artifact scatter 7:** Corroded circular part of iron stove part with hatch. Found on the top of a house wall (structure 2). 0.31 m. high, 0.26 m. in diameter.

Coordinates; N: 63° 18' 09.6''                      10 m. asl.

W: 051° 06' 01.3''

**Artifact scatter 8:** Corroded Circular bottom of iron stove with decorated hatch. 0.19 m. high, 0.37 m. in diameter.

Coordinates; N: 63° 18' 09.4''                      3 m. asl.

W: 051° 06' 02.4''

**Artifact scatter 9-10:** Corroded circular iron stove part. 0.6 m. high, 0.35 m. in diameter. Found in the in the westernmost house with concrete foundation (structure 3). Further an American WW2 aluminum canteen is found in the western part of the house.

Coordinates; N: 63° 18' 09.7''      6 m. asl.  
W: 051° 06' 03.1''

**Artifact scatter 11:** Three fragments of a cylindrical corroded oil drum. 0.8 m. high, 0.6 m. in diameter.

Coordinates; N: 63° 18' 09.5''      9 m. asl.  
W: 051° 06' 05.3''



Fig. 4.20 Kangerluarsussuaq, artifact scatter 9-10.

**Artifact scatter 12:** Bottom of a rectangular corroded iron stove with two preserved legs (one of these is broken). 0.57 x 0.45 m., 0.3 m. high. Found in the House S of the westernmost house with concrete foundation (structure 7).

Coordinates; N: 63° 18' 09.3''      11 m. asl.  
W: 051° 06' 05.3''

**Artifact scatter 13:** Bottom of corroded rectangular iron stove with frame and legs. 0.67 x 0.42 m., 0.38 m. high.

Coordinates; N: 63° 18' 08.9''      8 m. asl.  
W: 051° 06' 04.2''

**Artifact scatter 14:** Rectangular corroded fuel container with perforated fittings. 0.44 x 0.42 m., 0.18 m. high. Possibly for use in a boat.

Coordinates; N: 63° 18' 07.6''      9 m. asl.  
W: 051° 06' 02.8''



**Artifact scatter 15:** Corroded side-fragment of gasoline can. 0.38 x 0.32 m.

Coordinates; N: 63° 18' 08.3''                      13 m. asl.

W: 051° 06' 00.1''

**Artifact scatter 16:** Corroded rectangular of an iron stove (frame with legs). 0.5 x 0.6 m., 0.3 m. high. Found beside the collapsed roof of the westernmost house with concrete foundation (structure 15).

Coordinates; N: 63° 18' 06.3''                      6 m. asl.

W: 051° 06' 01.1''

**Artifact scatter 17:** Tapestry with red lead, Green bottle shards marked "75 KGL", clear window glass, side shard of clear glass bottle.

Coordinates; N: 63° 18' 06.1''                      7 m. asl.

W: 051° 06' 01.1''

**Artifact scatter 18:** Rim-shard of white porcelain cup with an inside double horizontal blue line at the rim and darker blue motives below. 0.07 x 0.04 m.

Coordinates; N: 63° 18' 06.0''                      6 m. asl.

W: 051° 06' 01.6''

**Artifact scatter 19:** Circular iron cauldron with a hole for a handle, 0.25 m. high and 0.35 m. in diameter. Paper-fragments with red lead is found in the bottom of the cauldron. 1.7 m. W of the cauldron lies rectangular piece of iron from an iron stove with one whole; 0.4 x 0.04 m.

Coordinates; N: 63° 18' 06.2''                      6 m. asl.

W: 051° 06' 01.9''


**Artifact scatter 20:** Ten corroded fragment of an iron stove, modern tin cans, a rubber/canvas tarpaulin and a cauldron handle (for the cauldron in artifact scatter 19). Further green bottle glass of the same bottle type as in scatter 17 was found alongside shot cartridges. All of these are found on the west side of the house (structure 15).

Coordinates; N: 63° 18' 05.9''                      8 m. asl.

W: 051° 06' 01.3''

**Artifact scatter 21:** Corroded rectangular iron stove base with two preserved legs found inside structure 18. 0.42 x 0.67 m. 0.3 m. high. 1m. S of the stove lays a brown glass bottle with the inscription:

“NO DEPOSIT NO RETURN” and “NOT TO BE REFILLED” horizontally on the neck.

and “4  5” on the bottom.

6

Between the bottle and the stove lays a corroded rectangular iron plate 0.45 x 0.3 m.

Coordinates; N: 63° 18' 09.0'' 11 m. asl.

W: 051° 06' 00.0''



Fig. 4.21 The bottle found in artifact scatter 21.

**Artifact scatter 22:** Corroded circular iron cover or oil tank top with two parallel bulbs. 0.39 m. in diameter.

Coordinates; N: 63° 18' 09.0'' 11 m. asl.

W: 051° 06' 03.4''

**Artifact scatter 23:** Corroded rectangular front of an iron stove decorated with a crown and the inscription “ANKER HERMAN AS. FREDERIKSVÆRK” and “·603·” below the crown. 0,42 X 0,37 m.

Coordinates; N: 63° 18' 08.6'' 11 m. asl.

W: 051° 06' 05.5''

**Grave 1:** Oval stone built, 2 x 0.9 m. 1 m. high. One stone removed. Inside a skull and two femurs are visible. Second grave from the southernmost one.

Coordinates; N: 63° 18' 07.8''

W: 051° 06' 57.5''

**Grave 2:** Oval stone built, 2.4 x 2.8 m. 0.7 m. high. 0.7 m. high. undisturbed. Southernmost grave.

Coordinates; N: 63° 18' 07.7''

W: 051° 06' 56.9''

**Grave 3:** Oval stone built, 2.3 x 2 m., 1 m. high. Undisturbed. First grave from the southernmost one.

Coordinates; N: 63° 18' 07.8''

W: 051° 06' 56.2''

**Grave 4:** Circular stone built, 2.2 x 2.2 m. 0.8 m. high. Disturbed. Northernmost grave

Coordinates; N: 63° 18' 08.0''

W: 051° 06' 58.4''

All graves are situated on west side of the bog along the foot of the low mountain.

All measurement of height should be subtracted 1 m. in order to be calibrated to middle water level at November 3 2012 at 3.35 pm.





## 4.2

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## 'PEOPLE OF ALL TIMES' - FIELD REPORT

Site	Inuit site, 17 buildings with midden in front
Midden dimensions	Approx 150x 10 m ?? Thickness between 20 cm and 250 cm.
Maximum depth	250 cm
Vegetation	Turf houses covered with low grass. Midden covered with lyme grass and other grasses.
Outline	Distinct front towards the sea. Steep slope that is covered by vegetation in most places
Photos	No 3752-3944
<b>Measurements during visit</b>	
Thaw depth	Completely thawed
Soil temperature	5-7 °C. In one drilling down to 1 °C.
Water content	Very variable across midden. 10-70% vol in exposed front. Most layers 30-40%
Conductivity	20-40 mS/m in most of the midden layers. Only 10 mS/m in wetland above midden, and >2000 in peat in contact with seawater
pH	5-6. Up to 6.5 in bonerich layers.
Organic content	
Other (ground water level,	
<b>State of preservation</b>	
Buildings/site structure	Not excavated, seem stable.
Disturbance	Limited human disturbance, but midden highly eroded
<b>Midden contents:</b>	
Volume excavated during visit	Profile 1x2x0.1 m cleaned in eroded part of midden
Animal droppings	None
Textile	None found
Wood	Found in large amounts. Varying preservation from very decayed to well preserved
Bone	Many found, very variable preservation, from well preserved in upper layers, to completely decayed (lousy) in compact organic layers.
Turf	Very degraded. Soil matrix seems to consist of highly degraded/humified turf - it is without structure and easy to wash out.
Other	A few fishbone, some hair (from reindeer?)
State of preservation, in brief	Variable (poor to good)
<b>Samples taken during visit</b>	Bone and wood samples, ring samples, soil samples
<b>Research potential</b>	
Undisturbed remains?	Main part of midden is undisturbed, but with some mixing of layers due to erosion
Density of finds	High
Areas of research	Historical archaeology, zoo-archaeology, building archaeology
<b>Outreach potential</b>	Some outreach potential: the houses are easy to see, and the midden is visible due to erosion. However, there are not many visitors here.

## 4.2

## KANGERLUARSUSSUAQ/GRÆDEFJORDEN

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<b>Threats (ongoing/expected)</b> - 1st estimate based on brief visit	
Erosion from water/ice, including erosion from waves, boat-traffic, and freshwater	Previous and ongoing erosion from water, both from the sea (where the midden is already eroded to the current wave level) and from behind, where freshwater running through the midden is undermining it in places. Estimated erosion since 1952 is at least 35 m <sup>3</sup> , based on comparison with photo.
Other erosion (wind, animals, visitors)	No erosion from visitors or animals is observed, and only a limited drying out from the wind.
Vegetation, roots	Roots from grasses helps to protect the midden against erosion, but layers underneath are easily washed out.
Drainage	Natural drainage is rather high due to a steep slope of the midden. Only very limited parts of midden are (near) water logged
Melting, heating	No permafrost found. The possible effect from future heating is unknown.
Soil movement (including creeping, cryoturbation, slide)	Some movement of soil is observed, due to erosion and undermining by water
Decay of organic materials	Rate unknown
Other threats	Bone material is dissolving due to a low pH
Future threats?	Sea level rise could pose a threat.
<b>Comparison to earlier descriptions</b>	
	Comparison to photo from 1952 shows significant erosion
<b>Monitoring</b>	
Already initiated	Temperature and water content sensors installed
Suggested	Make repeated GPS measurements and photodocumentation of erosion front. Possibly install automatic camera to study effects from snow and ice
<b>Important unknowns/ research needed</b>	
	Effect of ice and snow
	Effect of low pH on bone degradation
	Decay rate organic material
	Comparison to old photos
<b>Mitigation</b>	
Erosion protection	Very difficult
Rescue excavation	Could be relevant
<b>Field worker</b>	AK, PT, HM, PL, PKK, JH & ABM

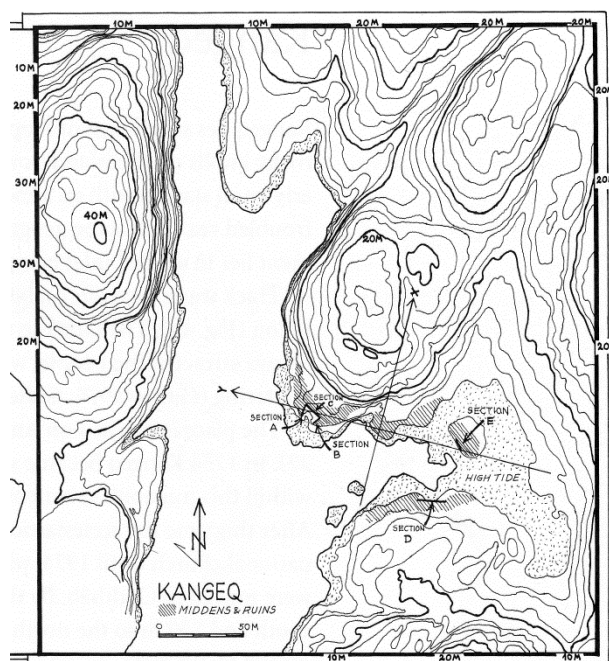
## 4.3 KANGEQ

### 'PEOPLE OF ALL TIMES' - 2012 INTERIM FIELD REPORT

#### 4.3 Kangeq (64V1-III-36)

##### 4.3.1 Introduction to the site and description of profile

The Kangeq site (63V1-III-36) is located on an island in the archipelago west 15 km west of Nuuk. The Kangeq Settlement lies in a small inlet behind a point on the southern side of the island (Gulløv 1997:83). The Kangeq settlement was inhabited from app. 1300-1974 AD, but has an earlier habitation phase in the Saqqaq culture, which is dated to 2398-1690 BC in other parts of the Nuuk region (Hinnersom-Berglund 2004:182). The site has been popular place to settle due to the vast amount of migratory birds in the winter, presence of lumpsucker in the spring and migrating seals in the summer (Gulløv 1976:97). The three main midden sections A-C are situated on the northern part of the inlet, whereas section D lies along the southern part and D in the eastern part (fig.4.23). The Kangeq middens were investigated in 1968 by Gulløv and Ilkjær in order to illuminate the Saqqaq habitation at the site (Gulløv & Ilkjær 1969:1).



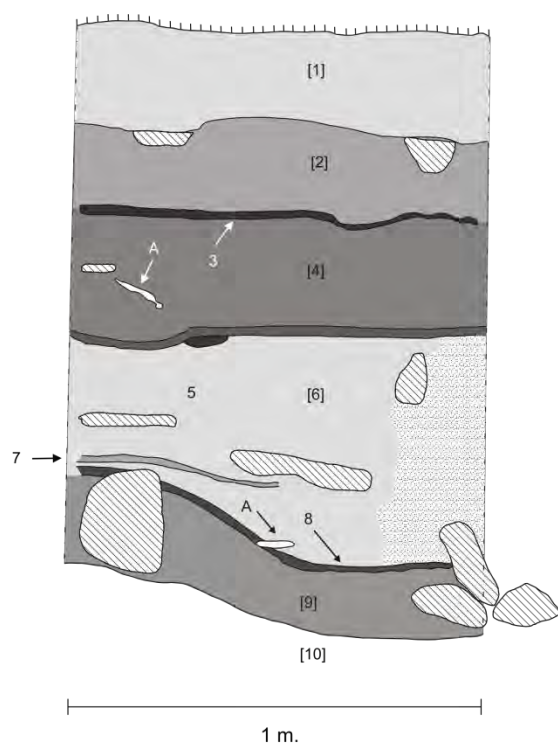
**Fig. 4.23 The topography around the Kangeq midden (Gulløv 1997:84).**

During this field work the midden A-D was cleaned of and documented by photo and drawing. The midden height was up to 2.5 m. (Gulløv & Ilkjær 1969:1). During the 1968 field work good state of preservation were observed for bone, skin, baleen, feathers, and wood in the layers dating from the 14th to the 19th century AD (Gulløv & Ilkjær 1969:86ff). Further permafrost hampered the excavation and was observed at 25 cm below the surface (Gulløv & Ilkjær 1969:1).

During the 2012 field campaign a 1 m. wide section of the midden section A was cleaned and documented and a monitoring station was installed on top of section C. Further bone samples was taken and field measurements of the soil water content, conductivity, pH and soil temperature was made in section C. Data from the monitoring station was retrieved in 2013. Further the Erosion front of midden A-D was documented by photo and measured with DGPS.

# 4.3 KANGEQ

## 'PEOPLE OF ALL TIMES' - 2012 INTERIM FIELD REPORT

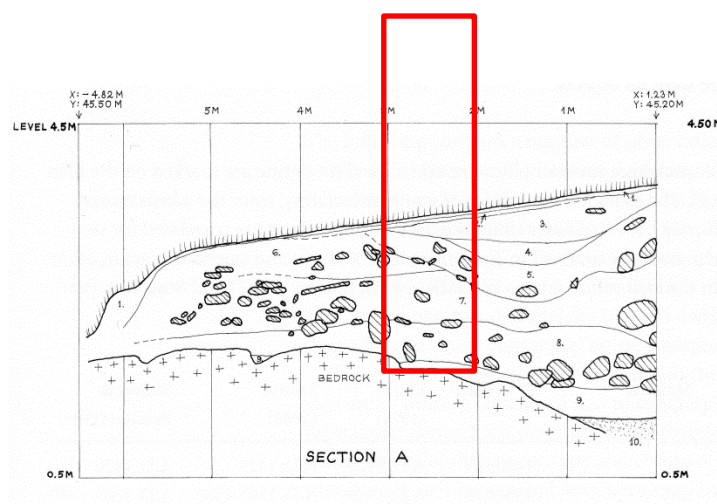


Vegetation

### Description of Kangeq, profile A:

Description of layers in the profile:

- 1: Dry layer with roots
- 2: Humus rich layer
- 3: Sandy layer
- 4: Compact very dark and moist layer.
- 5: Very compact black sticky layer
- 6: Compact dark partly sandy layer with roots
- 7: As layer 5.
- 8: Dark, wet partly sandy layer  
with a lot of wood preserved.
- 9: Black, wet and sandy layer.
- 10: Bed rock.
- 11: Profile partly covered by vegetation.
- A: Wood



**Fig. 4.24 Kangeq profile A, section 3-2 m. 2012 documentation (left and bottom right). 1968 documentation (top right).**



## 4.3 KANGEQ

### 'PEOPLE OF ALL TIMES' - 2012 INTERIM FIELD REPORT

The investigation of midden section A & C in 2012 showed, that wood is present in very large amounts in lower layers, medium to good state of preservation. In the old excavation profiles the bones are very decayed, but in parts with "fresh" erosion the material is better preserved. Further turf is degraded in exposed profiles, but it still has some structure and cohesion. A bird very well preserved bird wing found in layer 9 in the lower part of the midden section A (fig. 4.25) indicates that good preservation conditions are still found in parts of the midden although conditions vary from poor to good.



**Fig. 4.25 Well preserved bird wing found in the lower part of the Kangeq midden, section A.**

After the 2012 field work the cleaned midden section was covered with a plywood board for protection and to make on site dissemination of the layers possible in the future.

#### 4.3.2 Kangeq Monitoring

Probing for permafrost was made with a steel probe and hand corer at approximately 10 places in the midden 5<sup>th</sup>-7<sup>th</sup> September 2012. In the area behind profile C, where the midden is thickest, ice appeared in a soil core extracted from 100 cm beneath the soil surface. In other areas, frozen layers were found up to 78 cm beneath the soil surface and down to 112 cm beneath the soil surface. Some areas produced no evidence of frozen soil.

At hole 6, digging was halted at a depth of 65 cm due to the presence of frozen layers.

Field measurements of the soil water content, conductivity, pH and soil temperature were made in part of Gulløvs profile C from 1982 (fig 4.26), in hole no 6 (1½ m behind profile C) and at selected sites around the midden to check for variability. Soil samples of 100 cm<sup>3</sup> volume were taken at a few depths in profile C and in hole no 6 for measurement of porosity and organic content. Several samples of wood and bone were taken at different depths from hole no 6 for further studies in the laboratory.

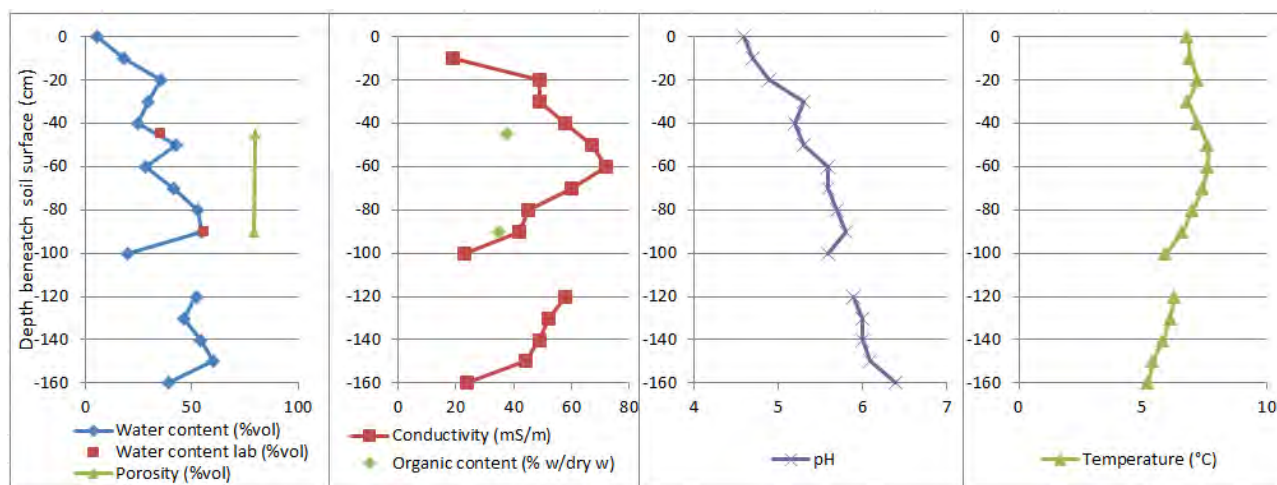


**Fig. 4.26 A small band on profile C from 1982 was superficially cleaned to make measurements of environmental parameters. The vertical string corresponds to Gulløvs 4 m line in profile C.**

The results from profile C are given in fig. 4.27. All depths are given relative to the soil surface. The different soil strata may be described as: 0-5 cm: modern vegetation, 5-15 cm: dry dense root felt; 15-60: dry midden deposits with degraded bones and twigs; 60-120 cm: moist midden deposits with degraded wood, there are some lacunas where the midden deposits have disappeared or flushed out; 120-150 cm; midden deposits with better preserved bone and wood.

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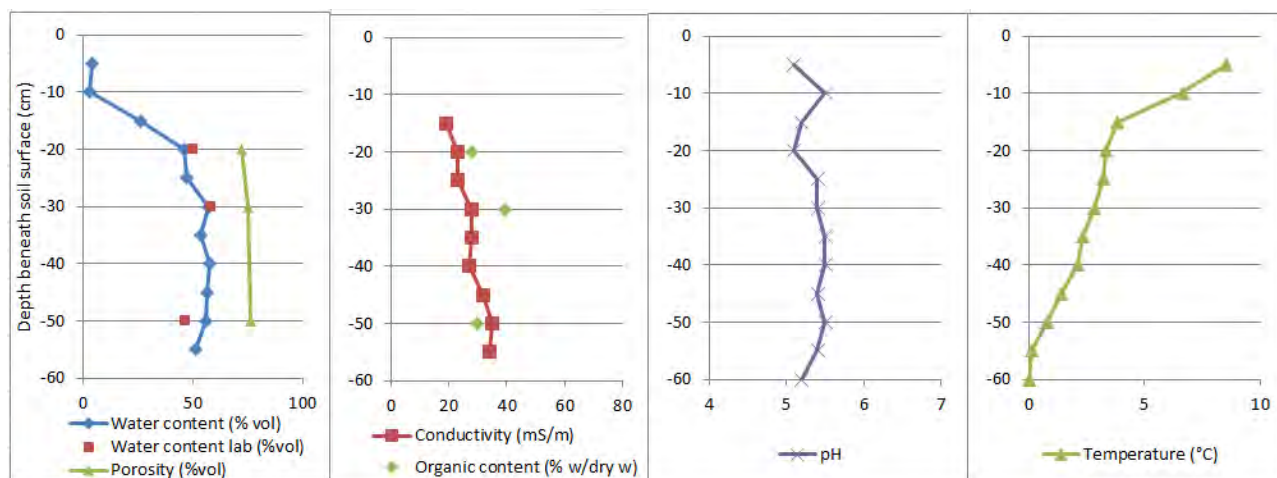
**Figure 4.27 Environmental measurements in profile C at Kangeq, 5<sup>th</sup> September 2012. Water content and conductivity was measured in the outer 5 cm of the profile with a WET probe from Delta-T instruments, pH and temperature was measured with a SS37 probe from IQ instruments. Porosity, organic content and water content was measured in the laboratory for 2 ring samples Note that measurements in open soil profiles are not necessarily representative for measurements in the undisturbed parts of the midden. The data gap at -110 cm is due to a lacuna in the midden deposits.**

The results from profile C shows increasing water content with depth, but none of the midden layers are completely water saturated in this open profile. The conductivity values are fluctuating, possibly due to differences in the seepage of fresh water through different midden layers. The pH values are relatively low in the top of the midden, which may influence the preservation of materials like bone and shells, but the pH increases with depth.

Measurements were also carried out in hole no 6 in the upper 55 cm of the soil (fig. 4.28). Here the soil strata may be described as: 0-5 cm: modern vegetation; 5-20 cm very spongy dry peat with a high air content; 20-30 cm: organic layer with a few finds; 30-40 cm: organic layer with flat degraded bones, very find rich; 40-50 cm: organic layer with fresh bones, shells (where the calcium carbonate has dissolved) and degraded wood; 50-65 cm: some ice crystals, bones more degraded than above, wood better preserved than above. The water content was very low in the upper 10 cm, and the spongy dry peat seemed very well isolating, which was confirmed by in situ measurements of the heat conductivity (not shown).

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### 'PEOPLE OF ALL TIMES' - 2012 INTERIM FIELD REPORT



**Figure 4.29 Environmental measurements in hole 6 at Kangeq, 6<sup>th</sup> September 2012. Water content and conductivity was measured with a WET probe from Delta-T instruments, pH and temperature was measured with a SS37 probe from IQ instruments. Porosity, organic content and water content was measured in the laboratory for 3 ring samples**

The results from hole 6 show relatively homogenous water contents between 50-58 %vol, beneath the spongy and relatively dry peat layer. The porosity of 3 soil samples varied between 72-76 %vol, so the layers were not water saturated at the time of measurement (September 2012).

Measurements at selected points in other areas of the midden showed results within the same ranges. In a few points the conductivity was higher (> 1000 mS/m) due to direct influence from sea water.

Modern samples of wood and bone were left in profile C (at 45 cm, samples F29-F33 and A29-A33, Bone: K28-30) and in hole no 8 (at 45 cm depth, samples F34-F38 and A34-A38, bone: K25-27).

Monitoring equipment was installed in hole 6 and in profile C. Hole 6 was instrumented to measure subsurface temperatures in 0, 10, 20, 30, 40, 60, 80 and 100 cm depth and soil water content in 10, 20, 30 and 40 cm depth. An extra temperature probe was installed above the surface to measure the air temperature. Temperatures and water contents are measured every 1 hour using Campbell Scientific 107 temperature probes connected to a Campbell Scientific CR1000 datalogger and Hobo (S-SMx-M005) soil water sensors connected to a Hobo Micro Station. The Campbell datalogger is powered using a Yuasa NP7-12 lead acid battery (12V, 7Ah) and a solarpanel as charging source. Data is stored on a 2 GB Compactflash card that easily can be changed. The Hobo logger is powered using 4AA lithium batteries that can run for approximately two years. Data is stored on the internal memory that will be full July 2014. Data has to be downloaded using a special cable.



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**Fig. 4.29** Monitoring equipment on top of Kangeq midden section C (to the left). In the back one of the house ruins overlaying the midden is visible.

In profile C temperatures are measured in 45 and 90 cm and on the south side of the small bay temperatures are measured in hole no 5 at 30 cm and 60 cm depth. The measurements are made using Gemini PB-5001 temperature probes connected to Gemini Tinytag (Tgp-4520) dataloggers. The loggers are powered by single lithium 1/2AA batteries; they measure every 3 hours and will be full by July 2014. Data can only be retrieved using a special cable.

The first year of monitoring data from Kangeq was downloaded during a short field visit 19 August 2013 and is shown in fig. 4.30-32. During the first year of observations the mean soil temperatures in hole 6 varied from 0.6 °C at the surface to 0.7 °C in the deepest layers during (Fig 4.30). The yearly temperature amplitude at the surface was 9.2 °C which was somewhat lower than in the air (14.7 °C). The temperature amplitude decreased with depth and was 1.3 °C in the deepest part of the midden. Only the upper 0.6-0.8 m of the midden was frozen during the winter whereas temperatures below 0.8 m were above 0 °C all year round. During the site visit 5<sup>th</sup>-7<sup>th</sup> September 2012 frozen soil was encountered at 65 cm depth, but the monitoring data shows that these layers actually thaw by the end of the month. Measurements of temperature were also made in the exposed profile C. Seen over the whole period soil temperatures in profile C are 0.5 °C higher than temperatures in hole 6.

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### 'PEOPLE OF ALL TIMES' - 2012 INTERIM FIELD REPORT

With a temperature amplitude of 6.5 °C (0.9 m) in the profile compared to 1.4 °C in hole 8, the temperature variation is much larger in the exposed profiles.

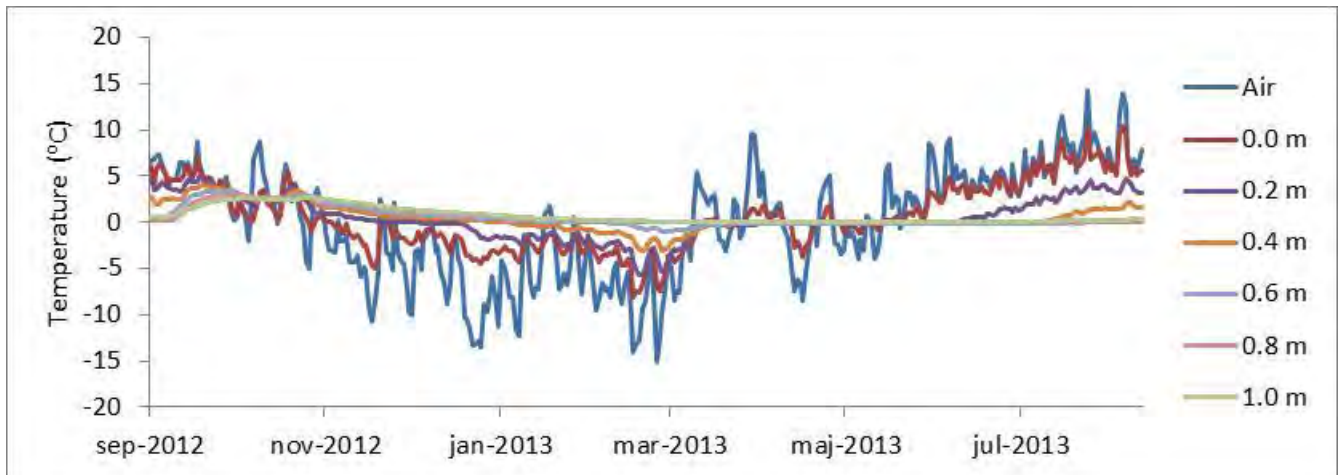


Fig. 4.30 Air temperature and soil temperatures measured in hole 6.

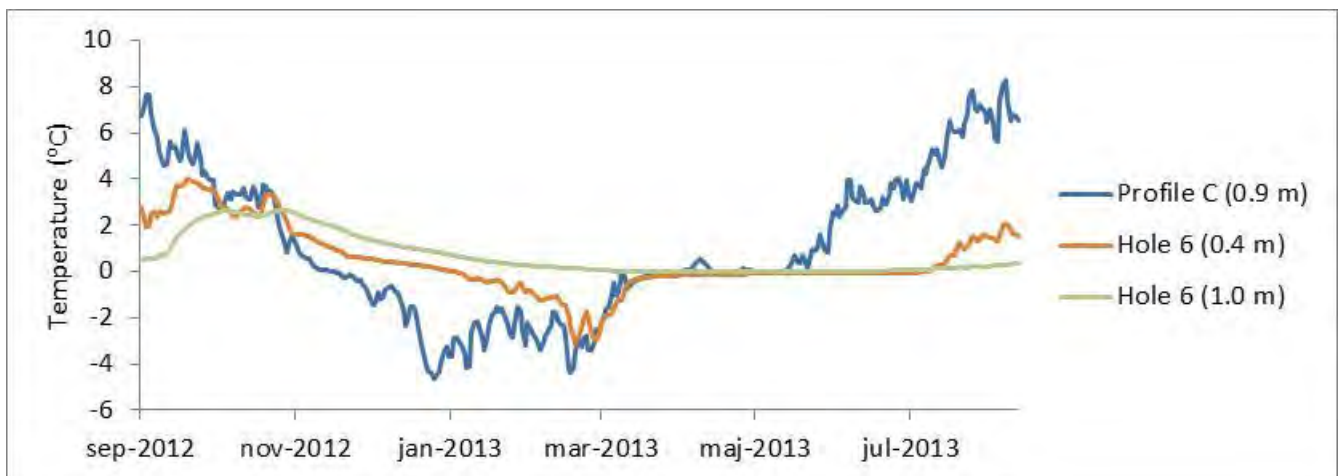


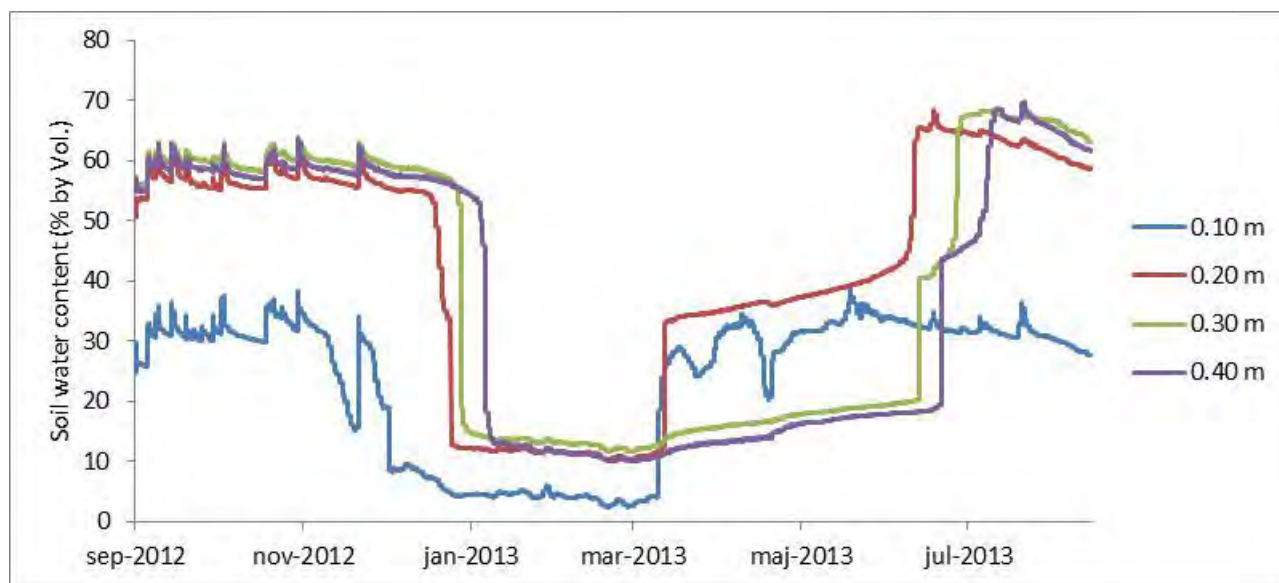
Fig. 4.31 Comparison between soil temperatures measured in hole 6 and the exposed profile C.

During the observation period the soil water content varied from 30 to 70 vol. % with the highest water content being found from 20-40 cm depth and with the upper layer being fairly dry. The amounts of unfrozen water during the winter period varies from 5-13 %. For comparison the soil porosity was measured to 72% at 20 cm depth, and 76% at 50 cm depth, i.e. the soil was probably not water saturated even during the wet periods.



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**Fig. 4.32** Soil water contents measured in hole 8. The data was calibrated using the wet probe measurements and values of porosity seen in figure 4.29. NB. The drop in water contents during the autumn/winter period is due to freezing.

At several places across the midden it was observed that erosion mainly takes place from “behind” where freshwater flowing through or underneath the midden layers slowly flushes out soil material and undermines the midden. On the south side of the bay large amounts of artifacts in front of the midden may indicate ongoing erosion. Some soil movement is observed as well – slides on the south side of the bay, and old excavation profiles leaning outwards on the north side.

Comparison was made to old photographs taken at the site (figure 4.33).



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**Figure 4.33 Comparison between photo taken by Krabbe in 1894 (upper), Hans Gulløv in 1972 (middle) and during the field work in 2012 (lower).**



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### 'PEOPLE OF ALL TIMES' - 2012 INTERIM FIELD REPORT

The three photos in fig. 4.33 doesn't indicate a severe erosion during the last 120 years in this area of the midden – rather the midden seems to have become stabilized by grass growing on top of it.

However comparing the measurements of profile A in 1969 and 2012 gives a difference between 3 and 34 cm in height in coordinates 1-5 m. Part of this difference is probably caused by the parts of the top edge of the midden falling down, but may also be explained by the collapsing of turf layers. The measurements 0 and 6 m. shows that, the inner and outer section corner has clearly been affected by erosion.

	2012	1969
6 m.	220	259
5 m.	220	246
4 m.	160	194
3 m.	140	148
2 m.	110	129
1 m.	110	113
0 m.	86	72

**Fig. 4.34 Measurements of the midden height in Kangeq, profile A.**

### 4.3.3 Summary

The observations made at Kangeq are summarized in Table x.

<b>Site</b>	Kangeq
Site name	
Museum ref	63V1-III-36
Date visited	4/9-7/9 2012
<b>Location</b>	
N/W (from handheld GPS, ddd.mm.mmm; WGS84)	N 64°06.400' W 052° 03.062'
Altitude	App. 3 m (see detailed GPS measurements)
Surroundings	Situated on rocky coast where waves can only reach through a relatively narrow strait. Steep cliff behind main midden.
<b>Description</b>	
Site	Saqqaq, Dorset and Inuit site, several buildings up to modern times, and a large midden
Midden dimensions	?? Thickness from 50 to 250 cm
Maximum depth	250 cm
Vegetation	Grass
Outline	Distinct front towards the sea. Steep slope that is covered with vegetation in some places
Photos	
<b>Measurements during visit</b>	
Thaw depth	Frozen soil was found at ca 60 cm depth where the midden is thickest (behind profile C) at site visit in September 2012, in other areas deeper or not present. Monitoring data shows that the soil is not permanently frozen.
Soil temperature	5-7 °C at site visit September 2012. One drilling down to 0 °C.
Water content	10-60 % vol.
Conductivity	20-100 mS/m in most midden layers. At a few sites tips of the midden is

# 4.3 KANGEQ

## 'PEOPLE OF ALL TIMES' - 2012 INTERIM FIELD REPORT

	directly influenced by seawater and the conductivity increases to >1000 mS/m.
pH	4.5-6, increases with depth
Organic content	
Other	
<b>State of preservation</b>	
Buildings/site structure	Turf buildings seem stable, modern buildings are slowly decaying
Disturbance	A large excavation from 1982 still visible
<b>Midden contents:</b>	
Volume excavated during visit	Profile of 1x1x0.02 m superficially cleaned.
Animal droppings	None found
Textile	None found
Wood	Present in very large amounts in lower layers, medium to good state of preservation
Bone	In the old excavation profiles the bones are very decayed, but at sites with "fresh" erosion the material is better preserved
Turf	Degraded in exposed profiles, but it still has some structure and cohesion
Other	A very well preserved bird wing with feathers
State of preservation, in brief	Variable (poor to good)
<b>Samples taken during visit</b>	Bone and wood samples, ring samples, soil samples
<b>Research potential</b>	
Undisturbed remains?	Main part of the (remaining) midden is undisturbed
Density of finds	High
Areas of research	Historical archaeology, zoo-archaeology, building archaeology
<b>Outreach potential</b>	Very high potential: The site contains remains from 4000 BP to 1972, the midden is visible due to erosion, and the site is very close to Nuuk.
<b>Threats (ongoing/expected)</b> - 1st estimate based on brief visit	
Erosion from water/ice, including erosion from waves, boat-traffic, and freshwater	Previous and ongoing erosion from water, both from the sea (where the midden is already eroded to the current wave level) and from behind, where freshwater running through the midden is undermining it in places. Estimated erosion since 1972 is modest on north side of bay (based on comparison with photo), but at the A,B and C profiles from 1982 some material has disappeared. Erosion on south side of bay seems more severe, as a lot of material is found in front of midden - the exact cause is unclear (thawing of permafrost?)
Other erosion (wind, animals, visitors)	No erosion from visitors was observed despite relatively many visits to the site.
Vegetation, roots	Roots from grasses helps to protect the midden against erosion, but layers underneath may be washed out (albeit not as easy as in Grædefjorden)
Drainage	Natural drainage is rather high due to a steep slope of the midden.

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Melting, heating	Permafrost found at 100cm depth. The risk of melting has not been evaluated yet.
Soil movement (including creeping, cryoturbation, slide)	Some movement of soil - slide on south side of bay, old excavation profiles leaning outwards on north side
Decay of organic materials	Rate unknown
Other threats	Bone material in some outer layers is dissolving due to a low pH
Future threats?	Sea level rise could pose a threat. Waves from ships could pose a threat if ships/boats pass at a short distance
<b>Comparison to earlier descriptions</b>	
	Comparison to photo from 1972 shows limited change, but some erosion has taken place at excavated profiles from 1982
<b>Monitoring</b>	
Already initiated	Temperature and water content sensors installed
Suggested	Make repeated GPS measurements and photo documentation of erosion front. Study old photos of front to document erosion
<b>Important unknowns/ research needed</b>	
	Effect of ice and snow
	Effect of low pH
	Thawing of permafrost
	Decay rate organic material
	Comparison old photos
	Comparison old find material
<b>Mitigation</b>	
Erosion protection	Natural erosion difficult to control, erosion from visitors may be limited through information signs.
<b>Field worker</b>	AK, PTO, HM, PKK, HM, JH & ABM

## 4.4 OTHER INUIT SITES 2012

'PEOPLE OF ALL TIMES' - FIELD REPORT

### 4.4 Other Inuit sites 2012

#### 4.4.1 Uugarmiut (63V2-III-5)

The 63V2-III-13 site is located 3 km east of Qeqertarsuatsiaat on the southern coast of the fjord just west of a small bay. The site was only known from an interview conducted by Jørgen Meldgaard in 1952, but has never been visited by archaeologists prior to the *People of all times project*.

**Structure 1:** Rectangular stone built tent house with entrance towards N. Several stones have fallen down and lie at the foot of the walls. Vegetation: crowberry, grass and lichens. Located 5 m. from the erosion front.

Coordinates; N: 63° 05' 00.6''      9 m. asl.  
W: 050° 36' 54.7''

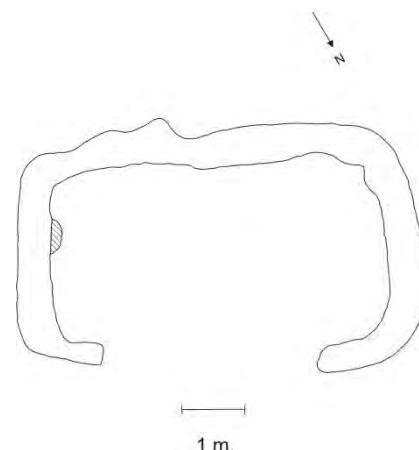


Fig. 4.35 Uugarmiut, structure 1.

**Structure 2:** Fox trap. Preserved trap door held by nylon line. Vegetation: lichens and grass. Well preserved but re-used.

Coordinates; N: 63° 05' 01.3''      2 m. asl.  
W: 050° 36' 58.0''

**Structure 3:** Big fox trap. Preserved trap door held by nylon line. Vegetation: lichens and grass. Well preserved but re-used.

Coordinates; N: 63° 05' 01.1''      5 m. asl.  
W: 050° 36' 58.4''

**Structure 4:** Circular stone built grave. 0.9 m. in diameter, 0.6 m. high. Vegetation: moss and lichens.



## 4.4

## OTHER INUIT SITES 2012

## 'PEOPLE OF ALL TIMES' - FIELD REPORT

Coordinates; N: 63° 05' 00.4''

W: 050° 37' 03.7''

**Structure 5:** Disturbed oval stone built grave. 2.1 x 1.6 m. 0.35 m. high. Vegetation: Lichens.

Coordinates; N: 63° 05' 00.4''

W: 050° 37' 03.7''

**Structure 6:** Oval tent ring of head-sized stones. Some stones are lying outside the structure to the NW and W. 4 x 2.5 m. The tent ring is located on the top of a knoll. Vegetation: moss and lichens. Very well preserved.

Coordinates; N: 63° 04' 58.8''

W: 050° 36' 56.3''

app. 13 m. asl.

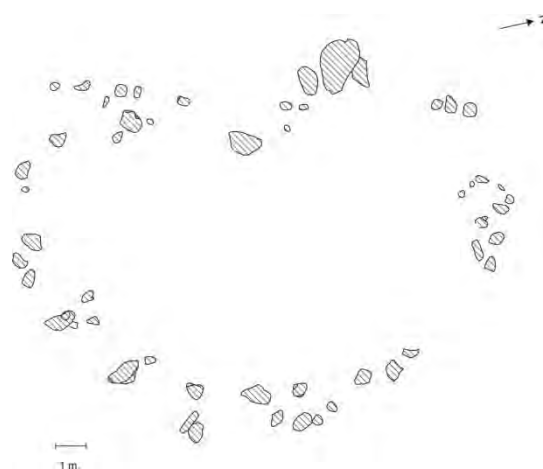


Fig. 4.36 Ugarimiut, structure 6.

**Structure 7:** Fox trap. 1.1 x 0.9 m. 0.4 m. high. Vegetation: Lichens.

Coordinates; N: 63° 04' 58.8''

W: 050° 37' 00.9''

## 4.4 OTHER INUIT SITES 2012

### 'PEOPLE OF ALL TIMES' - FIELD REPORT

**Structure 8:** Oval tent ring with one big stone in the NE corner. The rest of the stones are ranging from small to head size. All stones and the rock are overgrown with lichens. The northernmost stones lie on the rock surface in the vegetation.

Coordinates; N: 63° 04' 59.2''

W: 050° 36' 53.7''

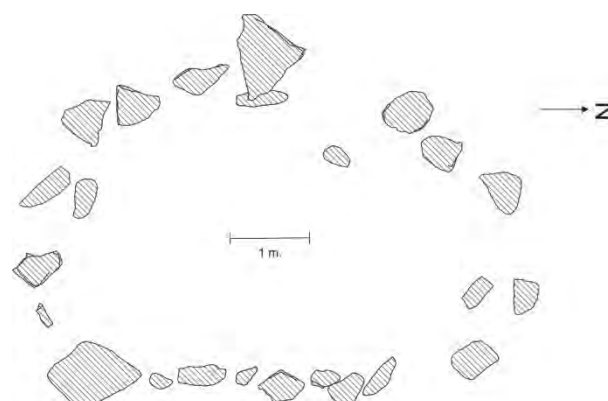


Fig. 4.37 Ugarimiut, structure 8.



**Structure 9:** Stone built grave under a big boulder. 2.5 x 1.3 m., height 0.4 m. Partly disturbed. Two limb bones are visible. Vegetation: moss and lichens. Well preserved.

Coordinates; N: 63° 04' 57.4''  
W: 050° 37' 00.9''

39 m. asl.

Fig. 4.38 Ugarimiut, structure 9.

**Structure 10:** Big oval stone built grave. 2 x 2.4 m., 1 m. high. Femur, fibula, pelvis and the skull is visible. Undisturbed. Vegetation: Lichens and crowberry.

Coordinates; N: 63° 04' 55.3''

32 m. asl.

W: 050° 36' 54.3''

**Structure 11:** Oval stone built grave. 2 x 1.1 m., 0.3 m. high. Very disturbed. Vegetation: Crowberry and lichens. The grave is located at a plateau near the top of the mountain.

Coordinates; N: 63° 04' 50.7''

11 m. asl.

W: 050° 36' 34.1''

# 4.4 OTHER INUIT SITES 2012

## 'PEOPLE OF ALL TIMES' - FIELD REPORT

### Summary of observations:

The observations made at 63V2-III-5 are summarized in Table x.

<b>Site</b>	
Site name	Ugarmiut
Museum ref	63V2-III-5
Date visited	Aug 28 2012
<b>Location</b>	
N/W (from handheld GPS, ddd.mm.mmm; WGS84)	N 63°05'11.4" W 050° 40'31.44"
Altitude	
Surroundings	The 63V2-III-5 site is located 3 km east of Qeqertarsuatsiaat on the southern coast of the fjord just west of a small bay. The site is located on a steep mountain rise.
<b>Description</b>	
Site	Inuit site with tent houses, graves and fox traps
Midden dimensions	Unknown
Maximum depth	Unknown
Vegetation	Crowberry, grass, lichens and moss.
Outline	Unknown
<b>Measurements during visit</b>	None
<b>State of preservation</b>	
Buildings/site structure	
Disturbance	Several dwellings seems disturbed to some degree.
<b>Midden contents:</b>	
Volume excavated during visit	None
<b>Samples taken during visit</b>	None
<b>Research potential</b>	Medium
Undisturbed remains?	Several dwellings seems disturbed to some degree.
Density of finds	Unknown
Areas of research	Historical archaeology and potentially others.
<b>Outreach potential</b>	The site is rather small, but visited by hunters is indicated by the reused fox traps. Outreach could be potentially helpful in order to protect the site and potentially initiate monitoring by local people.
<b>Threats (ongoing/expected)</b> - 1st estimate based on brief visit	Two of the fox traps are reused but well-preserved. Most graves are also been disturbed by human or animals at some point in time. Likewise the tent ring and tent house (structure 1 & 6) is also disturbed.

## 4.4 OTHER INUIT SITES 2012

### 'PEOPLE OF ALL TIMES' - FIELD REPORT

Erosion from water/ice, including erosion from waves, boat-traffic, and freshwater	None
Other erosion (wind, animals, visitors)	Visitors
Vegetation, roots	None
Drainage	None
Melting, heating	?
Soil movement (including creeping, cryoturbation, slide)	?
Decay of organic materials	?
Other threats	?
Future threats?	Structure 1 is lying 5 m. from the erosion front and is potentially threatened by sea erosion at some point in the future
<b>Comparison to earlier descriptions</b>	The site was first visited by archaeologists in 2012.
<b>Monitoring</b>	None
Already initiated	
Suggested	See above
<b>Important unknowns/ research needed</b>	
<b>Mitigation</b>	
Erosion protection	
<b>Field worker</b>	PKK and PTO

#### 4.4.2 Illumiut (63V2-III-6)

The Illumiut site is located on the NE tip of the Qeqertarsuatsiaq island at the mouth of the fjord running NE on the east side of the island; 2 km SE from Qeqertarsuatsaat. 3-4 houses were observed from the boat.

#### Summary of observations:

<b>Site</b>	
Site name	Iglumiut
Museum ref	63V2-III-6
Date visited	Aug 23 2012
<b>Location</b>	
N/W (from handheld GPS, ddd.mm.mmm; WGS84)	N 63°05'5.64" W 053° 39' 43.56"
Altitude	



# 4.4 OTHER INUIT SITES 2012

## 'PEOPLE OF ALL TIMES' - FIELD REPORT

Surroundings	The site is located at an island tip in an inner fjord.
<b>Description</b>	Inuit site with 3-4 houses.
Site	
Midden dimensions	Unknown
Maximum depth	Unknown
Vegetation	Unknown
Outline	Unknown
Photos	
<b>Measurements during visit</b>	None
<b>State of preservation</b>	
Buildings/site structure	Unknown
Disturbance	Unknown
<b>Midden contents:</b>	Unknown
Volume excavated during visit	None
State of preservation, in brief	Unknown
<b>Samples taken during visit</b>	None
<b>Research potential</b>	
Undisturbed remains?	Unknown
Density of finds	Unknown
Areas of research	Archaeology and ?
<b>Outreach potential</b>	Unknown
<b>Threats (ongoing/expected)</b> - 1st estimate based on brief visit	Unknown
Future threats?	Unknown
<b>Comparison to earlier descriptions</b>	The site was first visited by archaeologists in 2012 .
<b>Monitoring</b>	None
Already initiated	None
Suggested	Further documentation
<b>Important unknowns/ research needed</b>	
<b>Mitigation</b>	
Erosion protection	
<b>Field worker</b>	PKK and PTO

## 4.4 OTHER INUIT SITES 2012

'PEOPLE OF ALL TIMES' - FIELD REPORT

### 4.4.3 Upernivik (63V2-III-7)



Fig. 4.39

The east tip of Upernivik at high tide. Three very eroded structures 13 (blue), 14 (yellow) and 16 (red) are located on the beach ridge and in breakwater zone.

Qeqertarsuatsiaat is visible in the top left corner.

The Upernivik site is located on a rocky island 2 km NE of Qeqertarsuatsiaat. The site was only known from an interview conducted by Jørgen Meldgaard in 1952, but has never been visited by archaeologists prior to the *People of all times* project.

**Structure 1:** Remnants of a tent ring, 5 m in diameter, of which the eastern part (5 stones) is preserved. The tent ring is located directly on the bed rock. NW of the tent ring is a small cairn. Vegetation: Lichens.

Coordinates; N: 63° 05' 35.8''  
W: 050° 38' 28.5''



Fig. 4.40 Upernivik, structure 2.

**Structure 2:** Undisturbed oval grave located on a south-facing slope. Oval 2 x 2.7 m. built of flat stones; filled with smaller stones. Low, compared to the surrounding terrain. Vegetation: Lichens and grasses.

Coordinates; N: 63° 05' 35.0''  
W: 050° 38' 27.4''

## 4.4

## OTHER INUIT SITES 2012

## 'PEOPLE OF ALL TIMES' - FIELD REPORT

**Structure 3:** Almost undisturbed grave located on a northwest-facing slope. One top stone is missing.

Three skulls and 2 calvarias are visible. Top stones are overgrown with moss. 2.5 x 2.4 m. 1 m. high.

Coordinates; N: 63° 05' 35.1''

W: 050° 38' 23.0 ''

**Structure 4:** Undisturbed grave built against a large boulder. Located on a west-facing slope. Roof stones covered by moss, lichens and heather. Overgrown with lichens and crowberry on the top.

Coordinates; N: 63° 05' 35.1''

W: 050° 38' 22.8 ''

**Structure 5:** Small cairn. Two fallen stones lying beside it.

Coordinates; N: 63° 05' 35.3''

W: 050° 38' 21.3 ''

**Structure 6:** Disturbed grave built between large boulders on a west-facing slope. 2.5 x 1.8 m. 1.25 m. high. Overgrown with lichens and crowberry.

Coordinates; N: 63° 05' 34.3''

W: 050° 38' 21.5 ''

**Structure 7:** A circular cache built of smaller and large stones. 1.6 x 1.4 m. 0.6 m. high. Vegetation: Lichens.

Coordinates; N: 63° 05' 33.5''

W: 050° 38' 18.7''

**Structure 8:** Cache with a rectangular room built between fallen stones. 1.4 x 0.8 m. The room between the stones is 0.5 high. Vegetation: Lichens.

Coordinates; N: 63° 05' 33.5''

W: 050° 38' 18.5''

## 4.4

## OTHER INUIT SITES 2012

## 'PEOPLE OF ALL TIMES' - FIELD REPORT

**Structure 9:** Disturbed grave built between large boulders on an east-facing slope. 2.4 x 1.8 m. 1.1 m. high.

Coordinates; N: 63° 05' 32.7''

W: 050° 38' 16.0''

**Structure 10:** Undisturbed grave built on the north side of a big boulder on a south-facing slope. 1.4 x 2 m. 0.8 high. Vegetation: Lichens.

Coordinates; N: 63° 05' 31.5''

W: 050° 38' 11.3''

**Structure 11:** Disturbed grave located on a south-facing slope. 2 x 2.6 m. 1.1 m. high. The side stones are overgrown with willow and heather.

Coordinates; N: 63° 05' 520''

W: 050° 38' 182''

**Structure 12:** Half circle of four head-sized naturally present stones under a large boulder located on a southeast-facing slope. Possibly a shelter. 1.7 x 1.4 m.

Coordinates; N: 63° 05' 31.6''

W: 050° 38' 13.2''

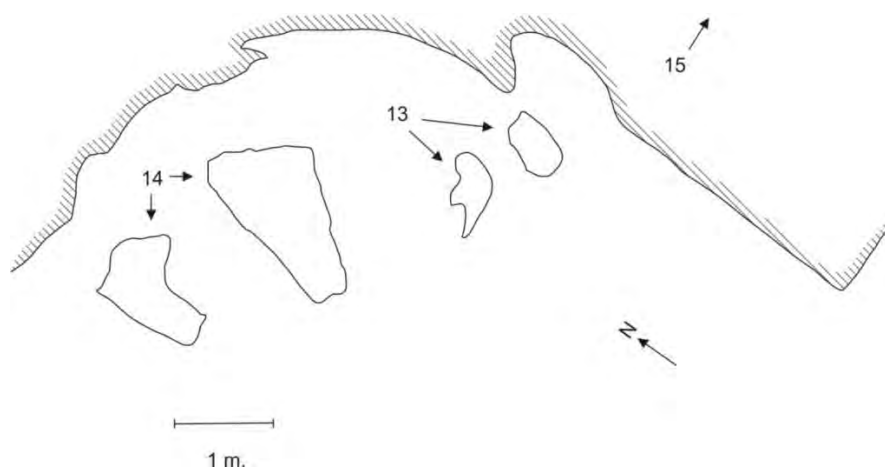


Fig. 4.41 Upernivik structure 13-15



## 4.4 OTHER INUIT SITES 2012

### 'PEOPLE OF ALL TIMES' - FIELD REPORT

**Structure 13:** Two remnants of walls built of turf and head-sized stones located in a west-facing bay SE of structure 14 on a point which is now washed away by the sea. The southernmost one measures 2 x 0.6 m. and is 0.44 m. high. The northernmost one measures 1.3 x 0.7 m. and is 0.7 m. high. Both walls are overgrown by grasses and rose root. The southernmost wall is in situ the northernmost one has been re-deposited by the ongoing erosion and lying in the breakwater at high tide.

Coordinates; N: 63° 05' 29.0''      W: 050° 38' 14.6''



Fig. 4.42 Upernivik, structure 13: the last remains of a tenthouse located in the breakwater zone

**Structure 14:** Remnants of a sidewall and platform of a tent house stones located in a west-facing bay NW of structure 13 on a point which is now washed away by the sea. The walls are built of turf with head sized stones in its outer foundation and with head- to hand-sized stones in the platform foundation. The wall measures 3.6 x 1.4 m. and are 0.5 m. high and 0.8 m. wide. The platform measures 1.5 x 1.2 m. and is 0.25 m. high. A line of stone is also observed along the back wall on top of the platform. From the position of the platform the entrance of the house must have faced south towards the bay. In front of the platform an oval stone structure, 1.1 x 0.75 m. made of 0.5 x 0.5 m. large stones, has been added in recent times. West the stone structure lays two flat stone tiles and four head-sized stones; none of which are in situ. Vegetation: Moss and grass. Most of the house has been eroded away by the breakwater at high tide.

Coordinates; N: 63° 05' 28.6''      0 m. asl.

W: 050° 38' 15.6''

## 4.4

## OTHER INUIT SITES 2012

## 'PEOPLE OF ALL TIMES' - FIELD REPORT

**Structure 15:** A small trapezoid tent house. 2 x 4 m. Entrance towards N turning towards E. Several stones can be felt under the vegetation of crowberry, willow, grass and lichens. Well preserved.

Coordinates; N: 63° 05' 30.4''  
W: 050° 38' 11.6''

2-3 m. asl.

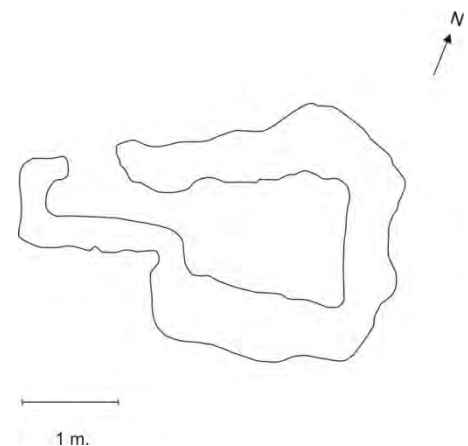


Fig. 4.43 Upernivik, structure 15.

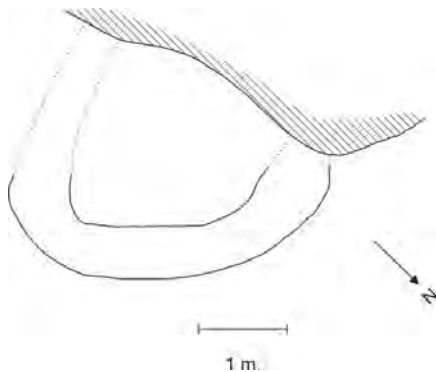
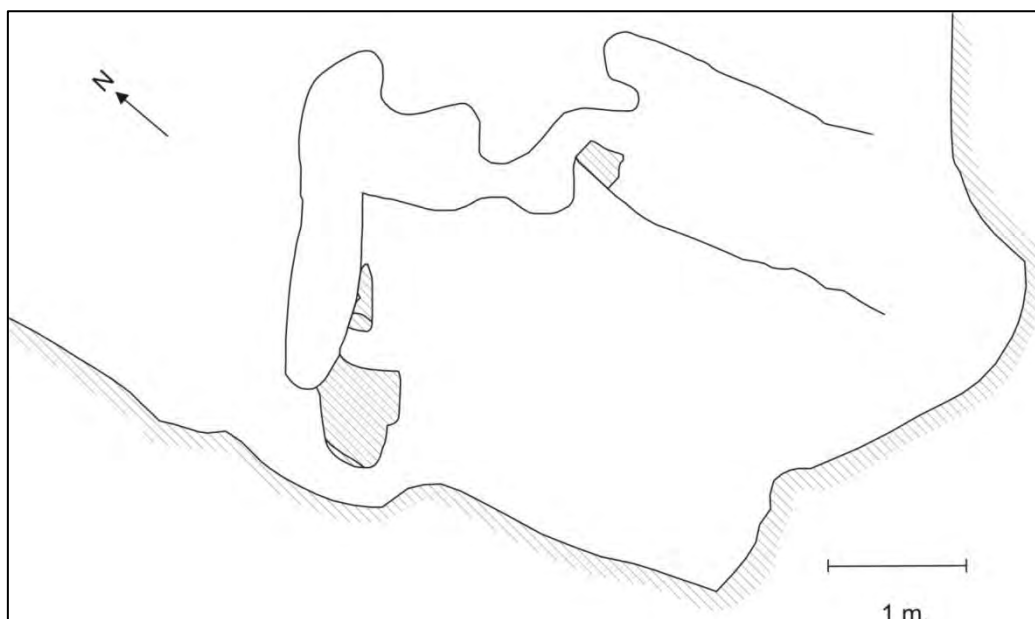


Fig. 4.44 Upernivik, structure 16

**Structure 16:** Back wall and a corner of a tent house located by a west-facing bay on an erosion ridge west of structure 15. 3.1 x 1.4 m. The back wall is 0.7 m. high and 0.4 m. wide. Badly preserved. Overgrown with lichens, willow and crowberry.

Coordinates; N: 63° 05' 30.2''

W: 050° 38' 11.4''



## 4.4

## OTHER INUIT SITES 2012

## 'PEOPLE OF ALL TIMES' - FIELD REPORT

Fig. 4.45 Upernik, structure 17.

**Structure 17:** Back- and side wall of a winter house located on the SW point of the island on an erosion ridge south of structure 18. The walls are built of turf with head-sized stones in the foundation. The back wall measures 3.8 x 0.7 m. and is 0.3 m. high. The side wall measures 2.2 x 0.4 m. and is 0.3 m. high. Badly preserved. Overgrown with grass, willow and crowberry.

Coordinates; N: 63° 05' 27.0''

3 m. asl.

W: 050° 38' 01.6''

**Structure 18:** Probably a large tent foundation located on the south side of the island close to the point. Square stone structure, 4 x 4 m., overgrown with high grass and moss. Stones can be felt in and outside the walls. An open fire place is located 3 m. SW of this structure (18A). Quite recent.

Coordinates; N: 63° 05' 27.5''

W: 050° 38' 02.0''

6-7 m. asl.

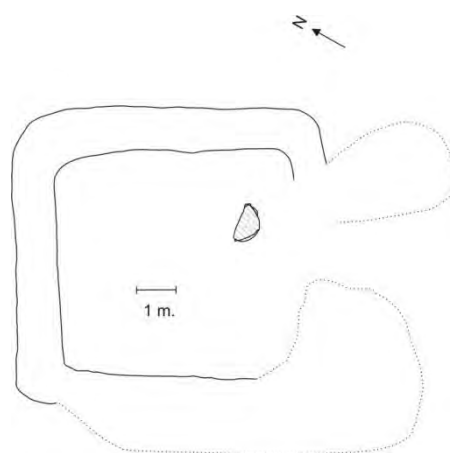


Fig. 4.46 Upernivik, structure 18

**Structure 19:** Turf wall oriented E-W- 2.8 x 0.5 m. Overgrown with heather, willow and crowberry

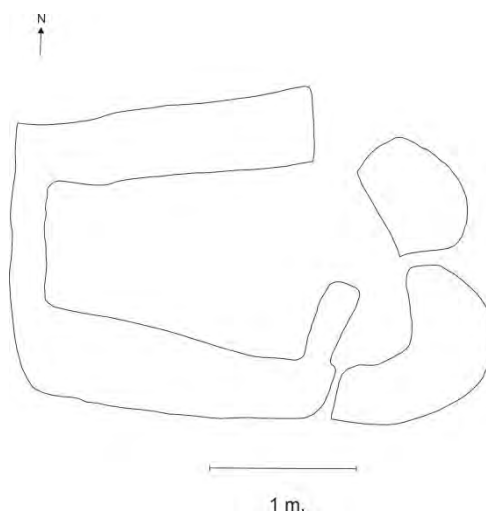
Coordinates; N: 63° 05' 28.1''

W: 050° 38' 01.3''

**Structure 20:** Trapezoid tent house with ante room located on the easternmost side on the southern point of the island close to the beach ridge. 2.4 x 2.3 m.; 3.9 x 2.3 m. including the ante room. Entrance towards N. The turf walls are 0.6 m. high and 0.7 m. wide. A flat stone (0.23 x 0.15 m) and a low wall 0.7 x 0.3 m.) is located at the threshold between the house room and the ante room. The house room is paved with stones. Overgrown with willow, lichens, crowberry and lime grass. Well preserved.

Coordinates; N: 63° 05' 28.7''

W: 050° 38' 03.6 ''



## 4.4

## OTHER INUIT SITES 2012

## 'PEOPLE OF ALL TIMES' - FIELD REPORT

10 m. asl. (acc. to GPS)  
Visual estimate 8 m. asl.

Fig. 4.47 Upernivik, structure 20.

**Summary of results:**

<b>Site</b>	
Site name	Upervivik
Museum ref	63V2-III-7
Date visited	Aug 24-25m 2012
<b>Location</b>	
N/W (from handheld GPS, ddd.mm.mmm; WGS84)	N 63°05'35.52" W 050° 38'18.24"
Altitude	0-7 m. asl.
Surroundings	The site is located on an island lying in the middle of a strait of an inner fjord.
<b>Description</b>	
Site	Inuit spring site with ten houses, one winter house and graves
Midden dimensions	All middens have been lost due to erosion
Maximum depth	
Vegetation	Lime grass, moss, grasses, heather, willow, rose root and crowberry
Outline	
Photos	
<b>Measurements during visit</b>	None
<b>State of preservation</b>	
Buildings/site structure	Many structures are disturbed by humans (graves) or the erosion (dwellings)
Disturbance	See above
<b>Samples taken during visit</b>	None
<b>Research potential</b>	Structure 15, 18 and 20 are undisturbed and has potential for research in the use of spring sites.
Undisturbed remains?	See above
Density of finds	Unrecorded
Areas of research	Archaeology and ?
<b>Outreach potential</b>	
<b>Threats (ongoing/expected)</b> - 1st estimate based on brief visit	Further erosion.
Erosion from water/ice, including erosion from waves, boat-traffic, and freshwater	Erosion from the sea.
Other erosion (wind, animals, visitors)	



## 4.4 OTHER INUIT SITES 2012

### 'PEOPLE OF ALL TIMES' - FIELD REPORT

Vegetation, roots	None
Drainage	None
Melting, heating	?
Soil movement (including creeping, cryoturbation, slide)	?
Decay of organic materials	?
Other threats	?
Future threats?	See above
<b>Comparison to earlier descriptions</b>	The site was first visited by archaeologists in 2012
<b>Monitoring</b>	None
Already initiated	
Suggested	Visual inspection
<b>Important unknowns/ research needed</b>	Possibly trail excavations to test preservation conditions.
<b>Mitigation</b>	
Erosion protection	
<b>Field worker</b>	PKK and PTO

#### 4.4.4 Kangillermiut (63V2-III-8)

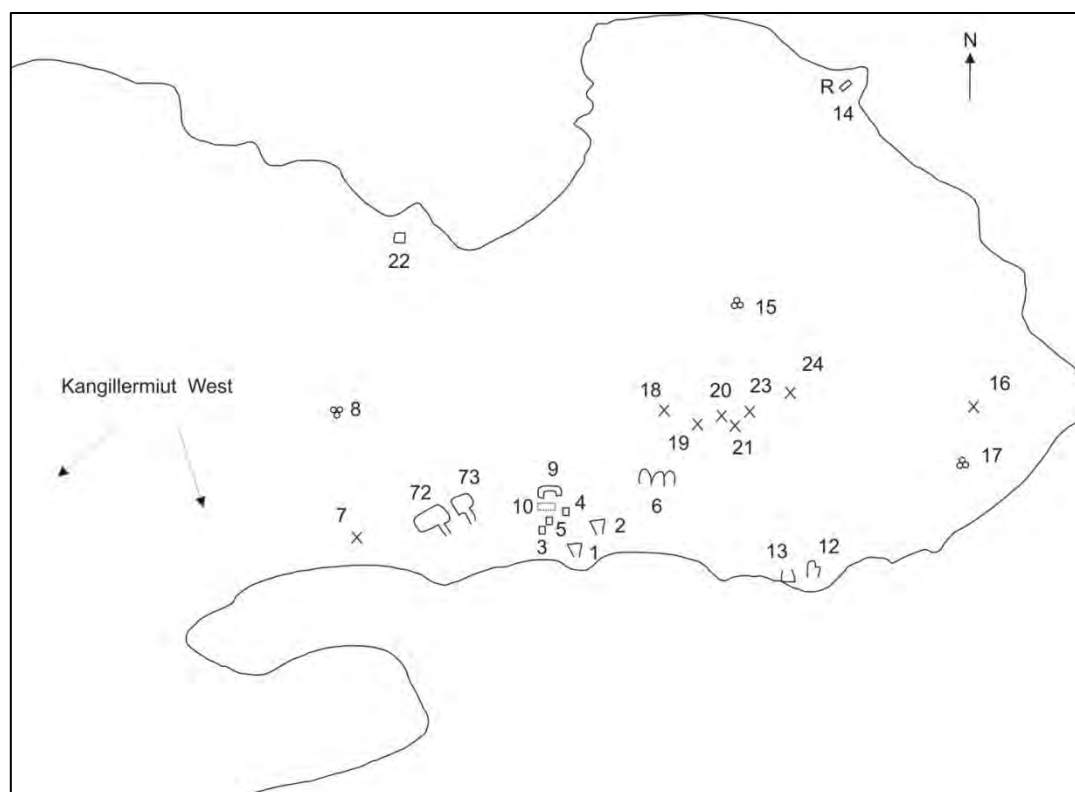


## 4.4 OTHER INUIT SITES 2012

### 'PEOPLE OF ALL TIMES' - FIELD REPORT

**Fig. 4.48 The eastern part of the Kangillermiut site seen from the western part. Kangillermiut east is situated on the plain between a rocky premonitory and the inland mountains.**

The Kangillermiut site is located in a small bay 2.5 km NE of Qeqertarsuatsiaat on the northern coast of the fjord running east west. The site was only known from an interview conducted by Jørgen Meldgaard in 1952, but has never been visited by archaeologists prior to the *People of all times project*. The eastern part of the site is situated on plateau with houses close to the eroding shore and graves placed further inland along the foot of the mountain. The western part of the site is placed further upland to the west overlaying the inner part of the bay and has the largest number of houses. In total 6 tent houses, 10 rectangular houses, one square house, one heart-shaped house, one u-shaped house, 2 oval houses, 7 circular houses, 3 trapezoid houses, 4 cloverleaf shaped houses, 4 communal houses, 2 indeterminable living structures, 14 graves, one tent ring, 3 hunters beds, 2 fox traps, 4 caches, 3 pits/play houses, 2 indeterminable structures and a small area with tiles and two stone rows was observed at the site during the 2012 visit. Several cairns were also visible on the mountain tops. The settlement covers a long time span, possibly from the earliest inuit settlement in the region as indicated by the niche in the front wall of a circular house (structure 39) and the many circular and clover-leaf shaped houses. The large communal and trapezoid houses shows that settlement at Kangillermiut continued at least to the 18th and possibly into the 19th century.



**Fig. 4.49 Hand-drawn plan of the eastern part of Kangillermiut.**

## 4.4

## OTHER INUIT SITES 2012

## 'PEOPLE OF ALL TIMES' - FIELD REPORT

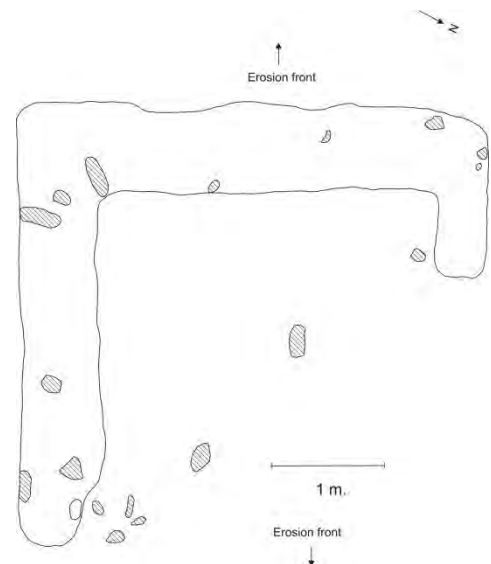


**Fig. 4.50** The western part of the Kangillermiut site is situated on a plain between two mountains rises and on a slope between a mountain and the premonitory. The site Upervik is located on the low Island visible in the upper right corner.

**Structure 1:** Presumably an early trapezoid tent house of which only the southern and western turf wall is preserved. The turf walls, in which stones are visible in several places, are 0.1 m. high in the southern end and up to 0.4 m. in the northern end measured from the inside of the structure. The walls are 0.5-0.6 m. wide. Heavily overgrown by grass. Located on a small foreland. The eastern part of the structure is eroded away.

Coordinates; N: 63° 05' 43.1''  
W: 050° 37' 42.3''

3-4 m. asl.



**Fig. 4.51** Kangillermiut, structure 1.

## 4.4 OTHER INUIT SITES 2012

### 'PEOPLE OF ALL TIMES' - FIELD REPORT

**Structure 2:** Trapezoid tent house with ante-room and entrance in N. Measurements 9.6 x 4.2 m. with 1 m. high and 0.5 m. wide walls. Vegetation: Grass and willow. Well preserved, but the erosion front is only 2.5 m. distant.

Coordinates; N: 63° 05' 43.9''      4 m. asl.  
W: 050° 34' 41.11''

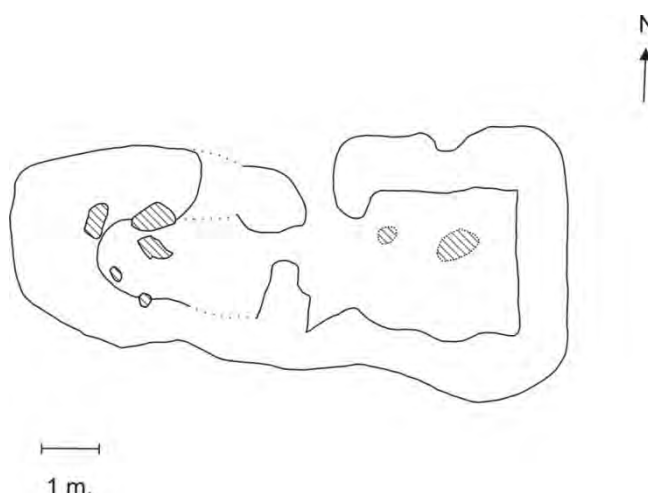


Fig. 4.52 Kangillermiut, structure 2.

**Structure 3:** Rectangular pit 0.65 x 1.1 m. filled with white quartz gravel and few hand- to egg-sized stones. Two flat overlapping flat stones are located in the NW corner. Interpreted as a pit from turf-collecting or playhouse. Well preserved. The pit is located 3.5 m. from the shore.

Coordinates; N: 63° 05' 43.9''      5 m. asl.  
W: 050° 37' 42.1''



Fig. 4.53 Kangillermiut, structure 3.

**Structure 4:** Rectangular pit 0.85 x 0.55 m. and 12 cm deep filled with white quartz gravel. Interpreted as a pit from turf-collecting or playhouse. Overgrown with crowberry. Well preserved.

Coordinates; N: 63° 05' 43.8''      1 m. asl.  
W: 050° 37' 41.6''

**Structure 5:** Rectangular pit 0.85 x 0.5 m. and 10 cm deep filled with white quartz gravel and a few hand-sized stones. Interpreted as a pit from turf-collecting or playhouse. Overgrown with willow, crowberry and northern bilberry. Well preserved. The pit is located 3 m. from the shore.

Coordinates; N: 63° 05' 43.9''      4 m. asl.  
W: 050° 37' 41.6''



## 4.4 OTHER INUIT SITES 2012

### 'PEOPLE OF ALL TIMES' - FIELD REPORT

**Structure 6a-c:** Three U-shaped stone houses built together. Vegetation: overgrown by crowberry, lichens, grasses moss, willow and narrow leafed willow-herb. Brackens on the inside. Well preserved

Coordinates; N: 63° 05' 43.9''

W: 050° 37' 41.7''

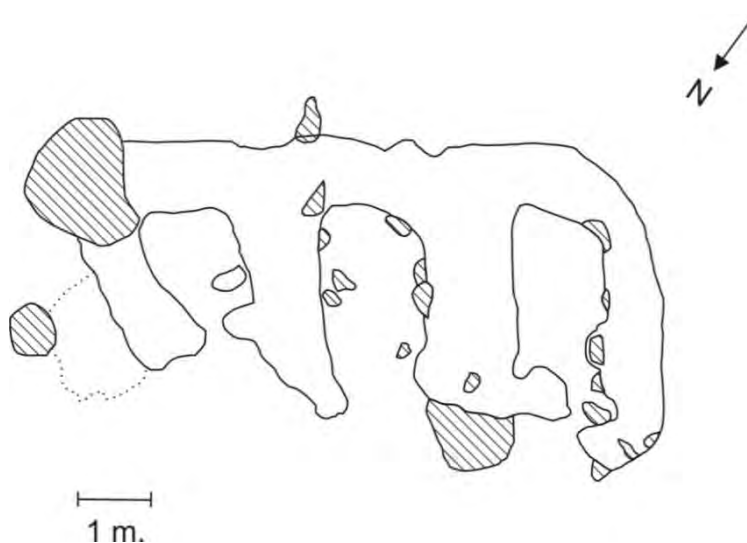


Fig. 4.54 Kangillermiut, structure 6a-c.

**Structure 7:** Disturbed oval circular grave built of flat stones. The grave may originally have been circular. 2.1 x 1.6 m. 0.3 m. high. Vegetation: lichens and crowberry. Poorly preserved. Many stones lies scattered at the side of the grave.

Coordinates; N: 63° 05' 43.9''

W: 050° 37' 41.8''

**Structure 8:** Cairn built of 4 head sized stone on a boulder. One additional stone lies at the foot of the boulder.

Coordinates; N: 63° 05' 43.9''

W: 050° 37' 41.9''

**Structure 9:** Back- and side wall of a turf built tent house. 5 x 1.8 m. Walls of turf; 0.2 m. high and 0.42 m. wide. Close by is a pile of big stones of recent date. Overgrown with willow and crowberry. Poorly preserved.

Coordinates; N: 63° 05' 43.9''

W: 050° 37' 41.1''

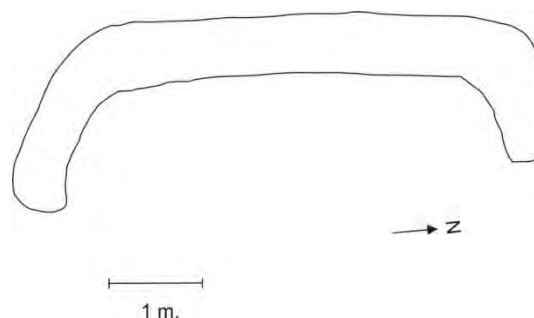


Fig. 4.55 Kangillermiut, structure 9.

## 4.4

## OTHER INUIT SITES 2012

## 'PEOPLE OF ALL TIMES' - FIELD REPORT

**Structure 10:** Younger tent ring located NW of structure 9. 2.4 x 1.5 m. Only half of the ring; 7 head sized stones is preserved.

Coordinates; N: 63° 05' 44.0''

4 m. asl.

W: 050° 37' 41.3''

**Structure 11:** Two recent parallel rows of stones of 5 and 8 stones. 5.9 x 1.7 m.

Coordinates; N: 63° 05' 43.8''

4 m. asl.

W: 050° 37' 41.6''

**Structure 12:** Tent house foundation with square room and ante-room with entrance in the south. Inner measurements 4.6 x 3.07 m. Many stones fallen down from the northern wall. Vegetation: Crowberry, willow, grass and moss. Well preserved.

Coordinates; N: 63° 05' 39.8'' App. 6 m. asl.

W: 050° 37' 39.2''

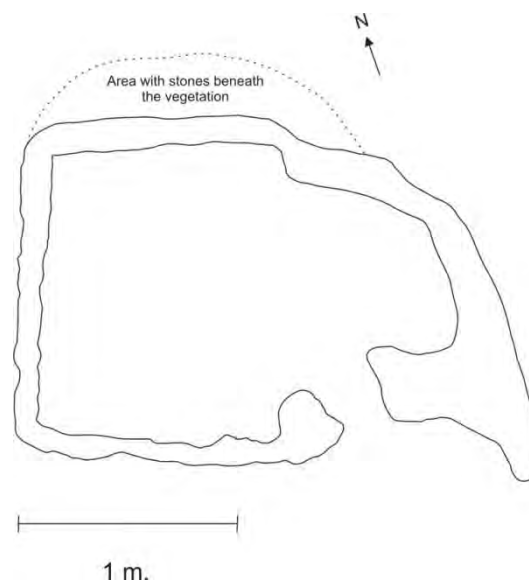


Fig. 4.56 Kangillermiut, structure 12.

**Structure 13:** Hardly visible turf wall. 4 large stones are part of the NW part. The wall is broken in several places and low in the NW and SW part. Located 1 m. from the shore. Overgrown with willow, crowberry and grasses.

Coordinates; N: 63° 05' 40.0'' App. 7 m. asl.

W: 050° 37' 39.3''

**Structure 14:** Undocumented house structure. Fox trap nearby.

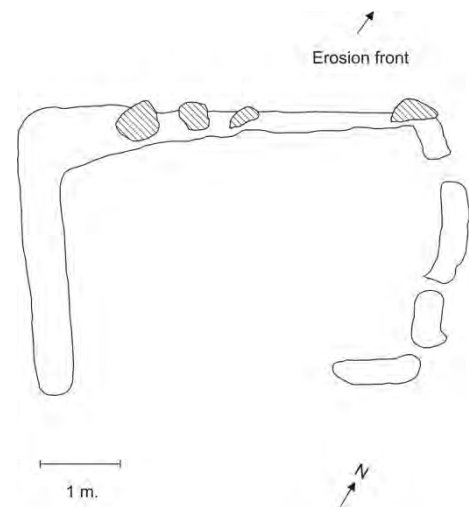
## 4.4

## OTHER INUIT SITES 2012

## 'PEOPLE OF ALL TIMES' - FIELD REPORT

Coordinates; N: 63° 05' 42.0'' App. 7 m. asl.  
W: 050° 37' 26.6''

**Fig. 4.57**  
**Kangillermiut, Structure 13.**



**Structure 15:** Cairn on a mountaintop.

Coordinates; N: 63° 05' 43.6'' app. 24 m. asl.  
W: 050° 37' 35.2''



**Fig. 4.58** Kangillermiut, structure 12 (right) and 13 (left) is located on a small point. Structure 13 is at present located only 1 m. from the beach ridge.

**Structure 16:** Circular grave built of flat stones. 2.2 m. in diameter.

Coordinates; N: 63° 05' 41.2''  
W: 050° 37' 33.5''

**Structure 17:** Cairn built on bed rock. Three stones have fallen down.

Coordinates; N: 63° 05' 40.9''

## 4.4

## OTHER INUIT SITES 2012

## 'PEOPLE OF ALL TIMES' - FIELD REPORT

W: 050° 37' 35.2''

**Structure 18:** Oval stone built grave 1.9 x 2.3 m., 1 m. high. Well preserved.

**Structure 19:** Oval stone built grave 2 x 1.5 m. Well preserved.

Coordinates; N: 63° 05' 43.8''

W: 050° 37' 38.3''

**Structure 20:** Circular stone built grave between four large rocks. 1.35 x 1.35 m., 0.4 m. high. Well preserved.

**Structure 21:** Oval dome shaped stone built grave. 2.3 x 2.7 m. 1.2 m. high. Well preserved.

**Structure 22:** Probably the back and sidewall of a square or rectangular tent house located on the beach ridge. 2.7 x 1.7 m. The walls are 1.3 m. high. The front part is lost due to erosion. Overgrown with lichens, moss and willow.

Coordinates; N: 63° 05' 45.9'' app. 7 m. asl.  
W: 050° 37' 32.7''

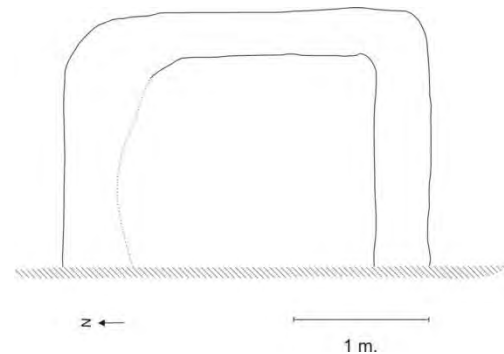


Fig. 4.59 Kangillermiut, structure 22.

**Structure 23:** Disturbed circular stone built grave. 1.4 x 1.7 m. 1 m. high.

**Structure 24:** Undocumented grave east of structure 23.

**Structure 25:** Circular stone built grave 2 x 2 m., 1.1 m. high. Inside one lumbar vertebrae and a fibula and tibia are visible. Vegetation: moss and lichens. Poorly preserved, several stones are missing.

Coordinates; N: 63° 05' 48.3'' 20 m. asl.

W: 050° 38' 03.9''



## 4.4

## OTHER INUIT SITES 2012

## 'PEOPLE OF ALL TIMES' - FIELD REPORT

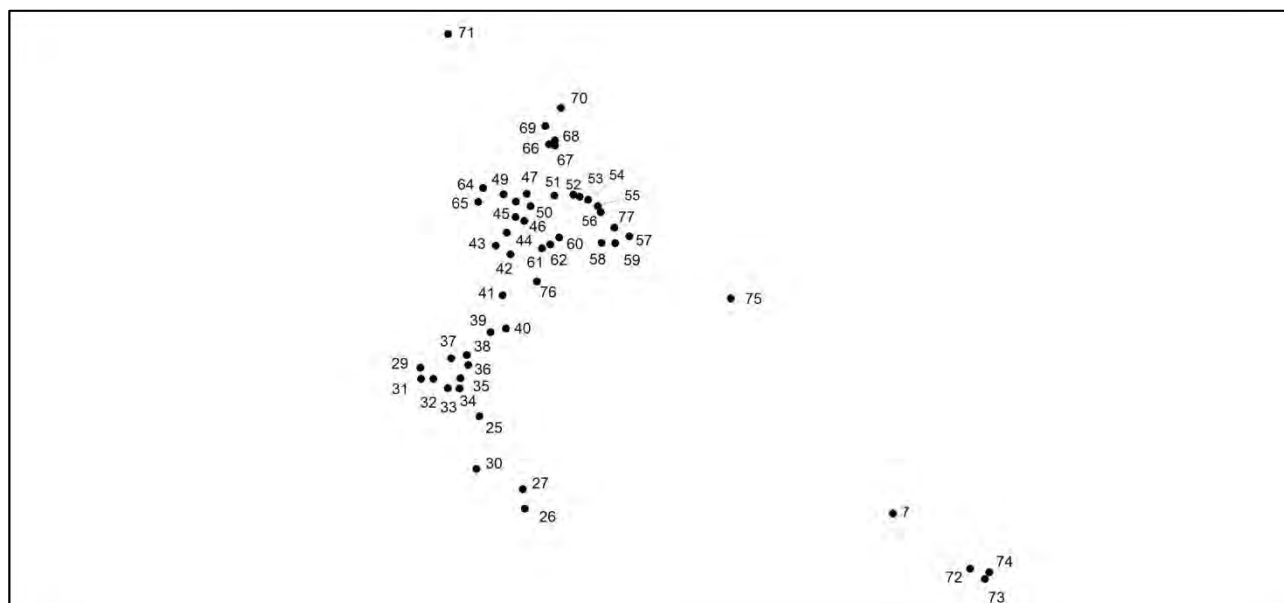


Fig. 4.60 Position of structures in the western part of Kangillermiut.

**Structure 26:** A very collapsed fox trap. 1.3 x 0.9 m. Located at the beach ridge. Vegetation: lichens.

Coordinates; N: 63° 05' 46.1''      3.76 m. asl.

W: 050° 38' 01.3''

**Structure 27:** Open circular stone built grave or shelter; 1.8 m. in diameter. Vegetation: crowberry, willow and lichens. Disturbed. Located halfway up the mountain rise.

Coordinates; N: 63° 05' 46.4''      6.7 m. asl.

W: 050° 38' 01.4''

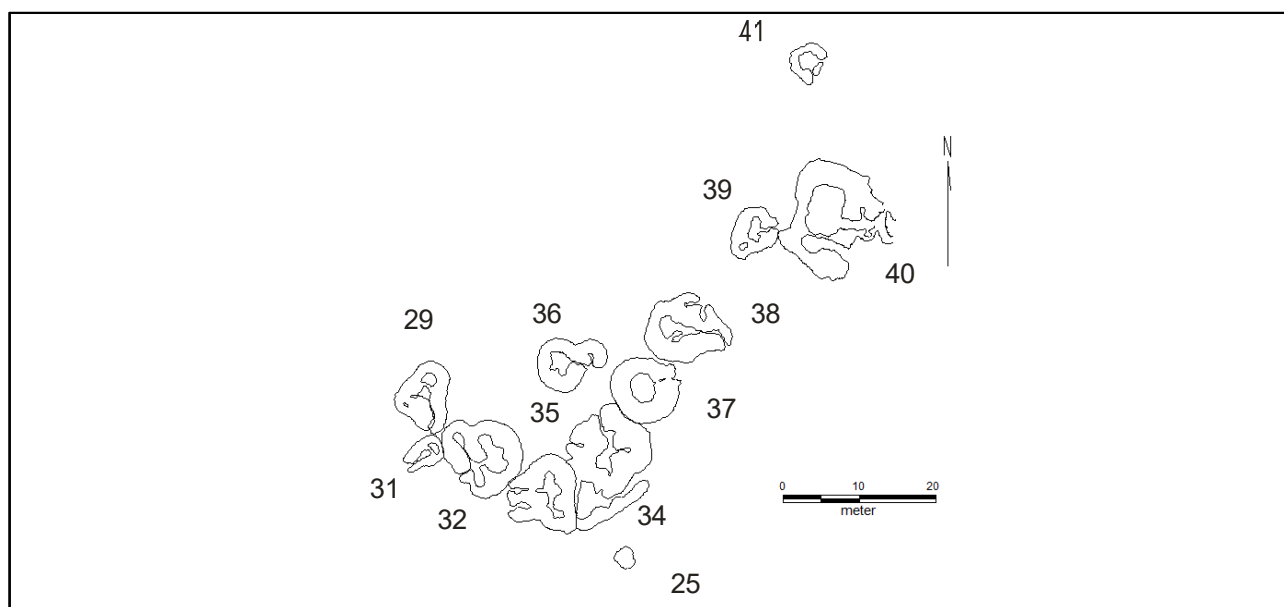
**Structure 28:** Undisturbed oval stone built grave located in a crevice. 1.6 x 1.2 m. 0.6 m. high. Overgrown with lichens and willow.

Coordinates; N: 63° 05' 54.6''      53 m. asl.

W: 050° 38' 13.7''

## 4.4 OTHER INUIT SITES 2012

### 'PEOPLE OF ALL TIMES' - FIELD REPORT



**Fig. 4.61 Kangillermiut Structures 29-31.**

**Structure 29:** Trapezoid house with preserved tread stone and platform along the back wall. 7.95 x 7.6 m. Possibly a cache in the east wall. Vegetation: Crowberry, willow and lichens.

Coordinates; N: 63° 05' 48.92'' 14.35 m. asl.

W: 050° 38' 5.874''

**Structure 30:** Square tent house. Vegetation: crowberry and willow. Located 5 m. from the erosion front. Well preserved.

Coordinates; N: 63° 05' 46.88'' 4.75 m. asl.

W: 050° 38' 3.4548''

**Structure 31:** Trapezoid house with lamp stone in situ at the entrance in the southern wall. 5.7 x 3.8 m. Heavily overgrown by crowberry, willow and lichens. Well preserved.

Coordinates; N: 63° 05' 48.704'' 13.7 m. asl.

W: 050° 38' 5.85''

**Structure 32:** Cloverleaf shaped house (A) with a smaller rectangular house to the left of A's entrance (B) and a smaller circular house to the right of A's entrance (C). 9.39 x 1.11 m. House A has a preserved platform in the each of its three rooms. House B has preserved platform and a lamp stone in situ to the right of its entrance. Vegetation: Crowberry, willow and lichens. Well preserved.

Coordinates; N: 63° 05' 48.67'' 14.3 m. asl.

W: 050° 38' 5.31''

## 4.4 OTHER INUIT SITES 2012

### 'PEOPLE OF ALL TIMES' - FIELD REPORT

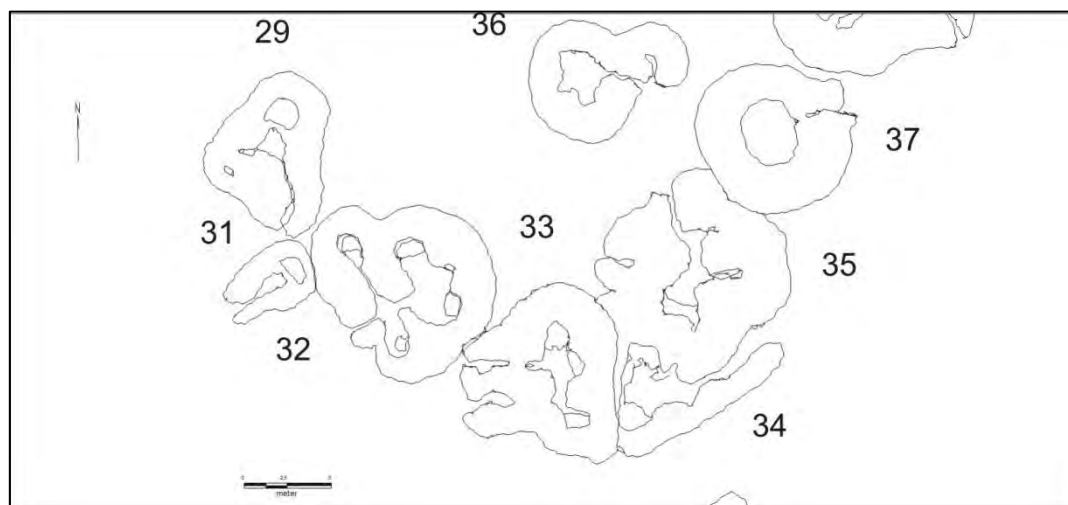


Fig. 4.62 Kangillermiut, structure 29 & 31-37

**Structure 33:** Circular house with 3 small rooms. 10.37 x 10.69 m. The northernmost has a preserved platform and two stone tiles in front of this. The middle room has a preserved platform and an extended wall between this room and the southernmost one. As a continuation of this wall lies a large stone. The southernmost room has a preserved platform and cooking niche in the house passage. Vegetation: crowberry, willow and lichens.

Coordinates; N: 63° 05' 48.505'' 14.7 m. asl.

W: 050° 38' 4.702''

**Structure 34:** Cloverleaf shaped house with preserved platform at the northern and the back wall. 9.88 x 7.54 m. Niche to the right of the entrance. Vegetation: crowberry, willow and lichens.

Coordinates; N: 63° 05' 48.583'' 15.97 m. asl.

W: 050° 38' 4.21''

**Structure 35:** Cloverleaf shaped house with large cooking niche to the left of the entrance, tread stone in situ and a smaller one on the left side of the house passage. 9.98 x 11.3 m. Preserved platform at the back wall. Vegetation: Crowberry, willow and lichens. Well preserved.

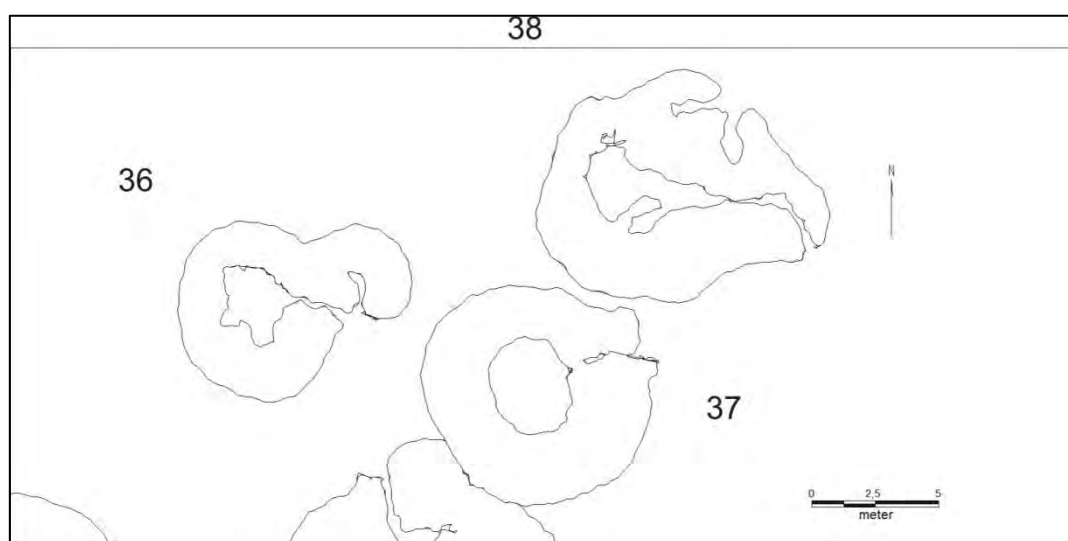
Coordinates; N: 63° 05' 48.719'' 15.3 m. asl.

W: 050° 38' 4.119''

## 4.4

## OTHER INUIT SITES 2012

## 'PEOPLE OF ALL TIMES' - FIELD REPORT



**Fig. 4.63** Kangillermiut, structure 36-37.

**Structure 36:** Circular house with preserved platform at the northern wall. 9.1 x 7.15 m. Cache to the right of the entrance. Vegetation: Crowberry, willow, grass and lichens.

Coordinates; N: 63° 05' 49.0902''      14.05 m. asl.

W: 050° 38' 4.50564''

**Structure 37:** Circular house with tread stone in situ. 9.06 x 8.98m. Vegetation: Crowberry, willow and grass. Well preserved.

Coordinates; N: 63° 05' 48.9804''      11.85 m. asl.

W: 050° 38' 3.76728''

**Structure 38:** Square house with two caches in the outer wall to the right of the entrance and a niche in the southern wall of the house room. 11.7 x 9.13 m.

Coordinates; N: 63° 05' 49.22556''      10.38 m. asl.

W: 050° 38' 3.4022''



## 4.4

## OTHER INUIT SITES 2012

## 'PEOPLE OF ALL TIMES' - FIELD REPORT

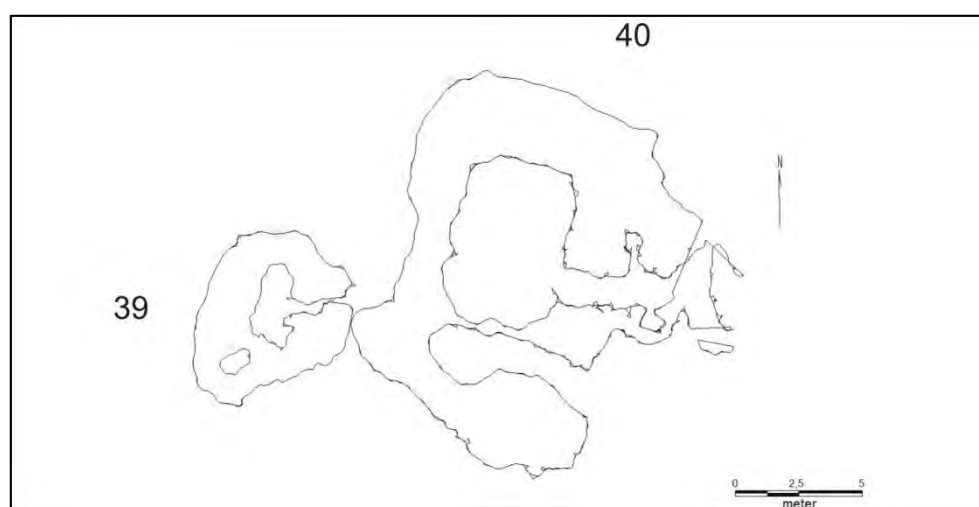


Fig. 4.64 Kangillermiut, structure 39-40

**Structure 39:** Circular house with cache in the southern corner and a niche in the front wall to the left of the entrance. Vegetation: Crowberry willow and lichens. Well preserved.

Coordinates; N: 63° 05' 49.62696'' 8 m. asl.

W: 050° 38' 2.7692''

**Structure 40:** House A: Rectangular with 1 m. high stone built walls. 14.61 x 9.59 m. Cooking niche in the right side of the passage with a large stone tile at the southern wall. Cache in the left side of the passage. Vegetation. Grass, willow and moss. Well preserved, but the passage ends at the erosion front towards SW.

House B: Smaller house built on the west side of house A. 10.14 x 6.09 m. Rectangular house room with stone built walls.

Coordinates; N: 63° 05' 49.6932'' 6.6 m. asl.

W: 050° 38' 2.0524''

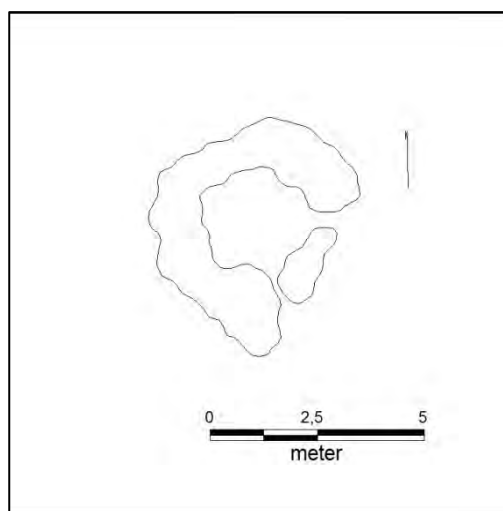
## 4.4

## OTHER INUIT SITES 2012

## 'PEOPLE OF ALL TIMES' - FIELD REPORT



**Fig. 4.65** Kangillermiut, structure 39 and 40.



**Fig. 4.66** Kangillermiut, structure 41.

**Structure 41:** Rectangular tent house with app. 0.35 m. high walls. 4.89 x 65.16 m. Two entrances one to the NE and on to the SE. The stone foundation can be felt under the heavy vegetation. Vegetation: willow and grasses.

Coordinates; N: 63° 05' 34.984'' 6.8 m. asl.  
W: 050° 38' 2.23332''

## 4.4 OTHER INUIT SITES 2012

### 'PEOPLE OF ALL TIMES' - FIELD REPORT

**Structure 42:** Large rectangular house. 11.42 x 8.5 m. House passage to the SSW, which turns towards south. On the west side at the house passage a small cache is seen. Another room is found at the east wall more to the southwest. The back wall is 1.5 m. high and the west wall 0.5 m. Heavy vegetation of willow and grasses.

Coordinates; N: 63° 05' 51.13896'' 8.41 m. asl.  
W: 050° 38' 1.79952''

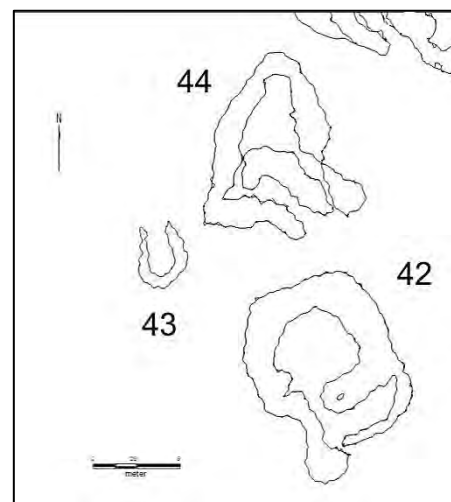


Fig. 4.67 Kangillermiut, structure 42-44.

**Structure 43:** Small u-shaped cache with entrance towards north. 4 x 2.9 m. The walls are 0.7 m. high on the inside.

Coordinates; N: 63° 05' 51.372'' 13.4 m. asl.  
W: 050° 38' 2.0428''

**Structure 44:** Large rectangular winter house with two entrances on the SE side. 9.64 x 10.8 m.

Coordinates; N: 63° 05' 51.554'' 6.6 m. asl.  
W: 050° 38' 2.0428''

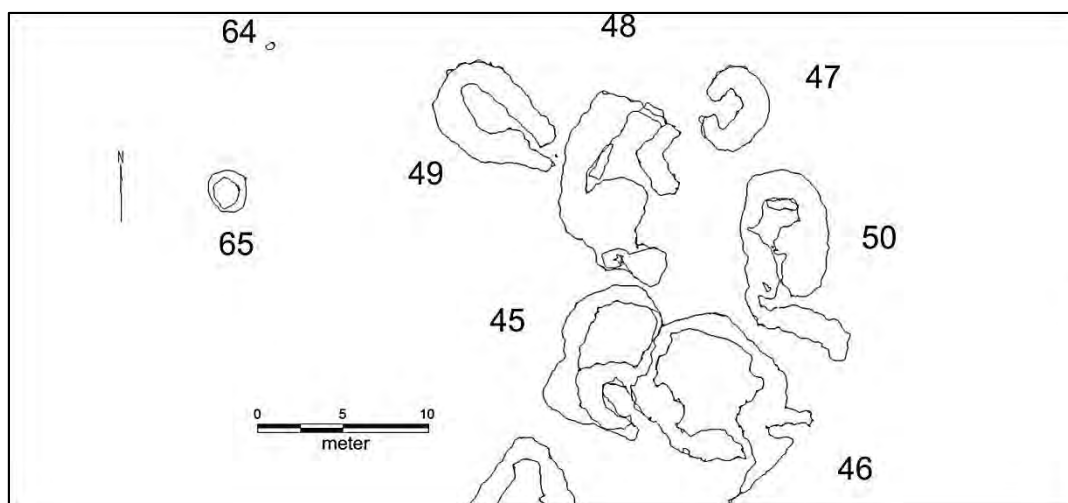


Fig. 4.68 Kangillermiut, structure 45-50 & 64-65.

## 4.4

## OTHER INUIT SITES 2012

## 'PEOPLE OF ALL TIMES' - FIELD REPORT

**Structure 45:** Cloverleaf shaped house? Niche on the east side of the house passage. 6.11 x 8.72 m.

Coordinates; N: 63° 05' 51.8892''      13.8 m. asl.

W: 050° 38' 1.704 ''

**Structure 46:** Circular house with passage towards SE. 10.2 x 7.74 m. Heavily overgrown with grass. Cache in the outer wall, east of the entrance.

Coordinates; N: 63° 05' 51.828''      14.64 m. asl.

W: 050° 38' 1.125669''

**Structure 47:** Small almost rectangular house with passage on the SW side, which turns towards SE. 3.94 x 4.59 m.

Coordinates; N: 63° 05' 52.35684''      16.46 m. asl.

W: 050° 38' 1.184''

**Structure 48:** Rectangular house with passage towards SE and a cache on the south side. 7.1 x 9.65 m.

Coordinates; N: 63° 05' 52.22292''      15.84 m. asl.

W: 050° 38' 1.64688''

**Structure 49:** Small oval house with house passage on the SE side. 8.11 x 5.09 m.

Coordinates; N: 63° 05' 52.3464''      17.26 m. asl.

W: 050° 38' 2.17752''

**Structure 50:** Rectangular house with passage on the south side, which turns towards E. Preserved platform at the back wall. 9.66 x 5.05 m.

Coordinates; N: 63° 05' 52.09728''      14.24 m. asl.

W: 050° 38' 0.9708''



## 4.4

## OTHER INUIT SITES 2012

## 'PEOPLE OF ALL TIMES' - FIELD REPORT

**Structure 51:** Trapezoid house with passage on the south side with direction N-S. 10.69 x 12.05 m. Caches on both sides of the house; one east of the passage and three in the east wall. Preserved platform at the back wall.

Coordinates; N: 63° 05' 52.29636'' 13.7 m. asl.  
W: 050° 37' 59.8422''

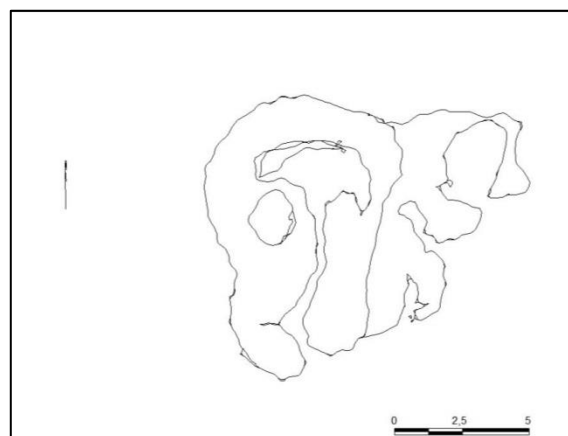


Fig. 4.69 Kangillermiut, structure 51.

**Structure 52:** Heart-shaped house with passage on the south side with direction to SE. 12.06 x 6.47. The walls are up to 4 m. high on the inside.

Coordinates; N: 63° 05' 52.27548'' 14.61 m. asl.  
W: 050° 37' 59.06748''

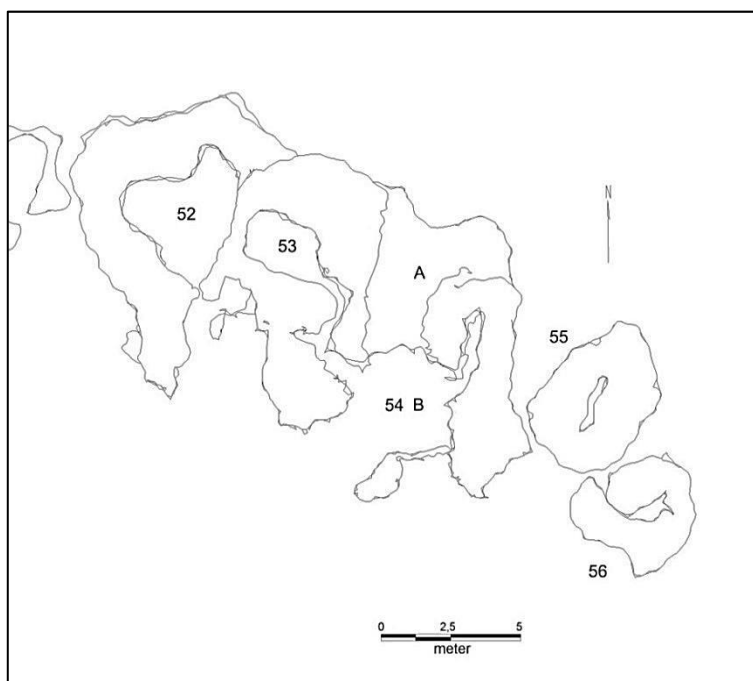


Fig. 4.70 Kangillermiut, structure 52-56.

**Structure 53:** Rectangular house built up against structure 52 sharing the east wall. Z-shaped passage towards east starting on the southernmost part of the east wall. 9.84 x 5.5 m. A small niche in the left wall of the house passage.

Coordinates; N: 63° 05' 52.226864''  
W: 050° 37' 58.80252''

15.7 m. asl.

## 4.4 OTHER INUIT SITES 2012

### 'PEOPLE OF ALL TIMES' - FIELD REPORT

**Structure 54:** House with curved niches in the back wall towards north (A). House passage towards S. Heavily overgrown by crowberry, grass and willow. Another house (B) with side room towards S is probably connected with house A. House passage on the northernmost part of the west wall. House and B measures 9.36 x 5.81 m.

Coordinates; N: 63° 05' 52.1718'' 16.25 m. asl.

W: 050° 37' 58.49688''

**Structure 55:** Possibly a small oval cache on the east side of structure 54. 5.23 x 3.79 m.

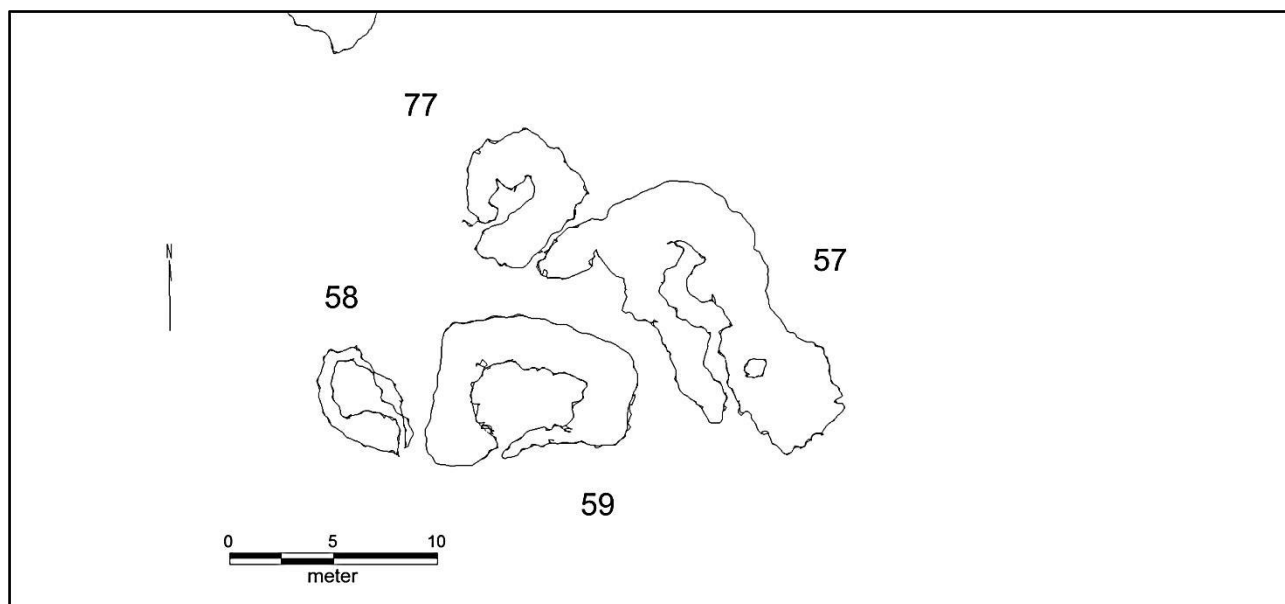
Coordinates; N: 63° 05' 52.11672'' 15.7 m. asl.

W: 050° 37' 58.65372''

**Structure 56:** Small circular winter house with a niche on the north side. House passage towards NW. 4.37 x 4.87 m.

Coordinates; N: 63° 05' 51.917848'' 14.67 m. asl.

W: 050° 37' 57.94536''



**Fig. 4.71** Kangillermiut, structure 57-59 & 77

**Structure 57:** Large rectangular communal house built in front of a projecting rock. 9.63 x 14.44 m. The house passage towards south ends in an erosion front. The passage has a niche on the SE side close to the house room.

## 4.4 OTHER INUIT SITES 2012

### 'PEOPLE OF ALL TIMES' - FIELD REPORT

Coordinates; N: 63° 05' 51.5058'' 12.15 m. asl.

W: 050° 37' 56.67276''

**Structure 58:** Oval winter house with passage on the SE side. 6.11 x 3.39 m. The house passage ends in an erosion front and has probably been longer. Heavily overgrown with dead and green grass as well as moss.

Coordinates; N: 63° 05' 51.3708'' 10.7 m. asl.

W: 050° 37' 57.85788''

**Structure 59:** Large communal house with one entrance in the western part of the south wall. 7.13 x 9.88 m. Passage towards SW. The house passage ends in an erosion front and has probably been longer. The south wall lies on the top of the erosion front.

Coordinates; N: 63° 05' 51.3708'' 12.01 m. asl.

W: 050° 37' 51.38232''

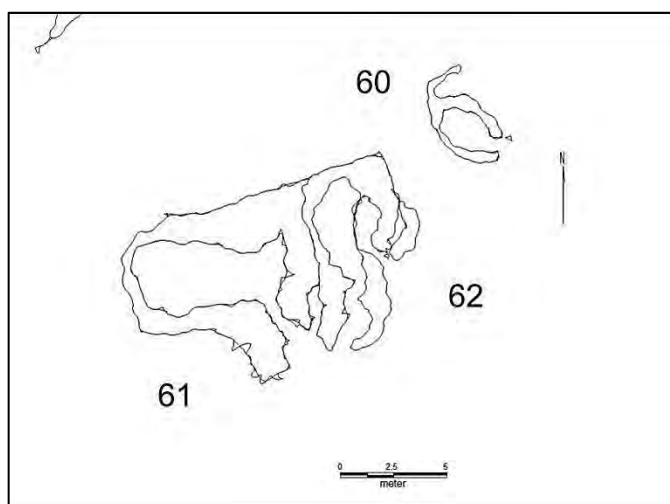


**Fig. 4.72** Three houses at Kangillermiut under erosion; structures 58, 59 and 57 (left). The middens of these houses have already vanished and the passages are now collapsing into the fjord (right).

## 4.4

## OTHER INUIT SITES 2012

## 'PEOPLE OF ALL TIMES' - FIELD REPORT



**Structure 60:** Small circular winter house with passage towards E. 4.8 x 2.4 m. Cache with separate entrance on the east side.

Coordinates; N: 63° 05' 51.4968''  
W: 050° 37' 59.75508''

9.94 m. asl.

**Fig. 4.73** Kangillermiut, structure 60-62.

**Structure 61:** Big rectangular communal house. House passage in the eastern part of the south wall. 8.64 x 9.13 m.

Coordinates; N: 63° 05' 51.27072'' 8.7 m. asl.

W: 050° 38' 0.546''

**Structure 62:** Winter house built up against a big boulder. House passage in the south wall with direction towards S. Cache on the south side of the house.

Coordinates; N: 63° 05' 51.3078'' 10.9 m. asl.

W: 050° 38' 0.12408''

**Structure 63:** has been documented twice by error. Equals structure 43.

**Structure 64:** Oval stone built cache. 0.514 x 0.33 m.

Coordinates; N: 63° 05' 52.4852'' 24.33 m. asl.

W: 050° 38' 3.107292''

**Structure 65:** Small oval structure. 2.32 x 2.47 m.

Coordinates; N: 63° 05' 52.21032'' 23.67 m. asl.

W: 050° 38' 3.28956''

**Structure 66:** Disturbed circular stone built grave. 2.74 x 2.63 m.



## 4.4

## OTHER INUIT SITES 2012

## 'PEOPLE OF ALL TIMES' - FIELD REPORT

Coordinates; N: 63° 05' 53.34368'' 27.04 m. asl.

W: 050° 38' 0.21444''

**Structure 67:** Disturbed oval stone built grave. 0.59 x 0.43 m.

Coordinates; N: 63° 05' 53.3218'' 27.68 m. asl.

W: 050° 37' 59.87712''

**Structure 68:** Disturbed oblong grave. 0.77 x 0.42 m.

Coordinates; N: 63° 05' 53.4181'' 10.97 m. asl.

W: 050° 37' 59.91096''

**Structure 69:** Hunters bed/ lookout shelter. 1.51 x 0.756 m.

Coordinates; N: 63° 05' 53.7034'' 31.6 m. asl.

W: 050° 38' 0.312036''

**Structure 70:** Hunters bed built on the east side of a big standing stone. 1.936 x 0.792 m.

Coordinates; N: 63° 05' 54.0666''

W: 050° 37' 59.654532''

38.22 m. asl.



Fig. 4.74 Kangillermiut, structure 70

**Structure 71:** Collapsed fox trap. 1.79 x 1.3 m.

Coordinates; N: 63° 05' 55.5495'' 42.8 m. asl.

## 4.4

## OTHER INUIT SITES 2012

## 'PEOPLE OF ALL TIMES' - FIELD REPORT

W: 050° 37' 59.91096''

**Structure 72:** Rectangular communal house with cooking niche in the west side of the house passage. 13.7 x 13.2 m. Vegetation: grass. Well preserved.

Coordinates; N: 63° 05' 44.8296'' 8.06 m. asl.  
W: 050° 37' 41.79576''

**Structure 73:** Rectangular winter house with house passage towards W. Vegetation: grass. Well preserved. 8.75 x 6.69 m.

Coordinates; N: 63° 05' 44.65608'' 8.25 m. asl.  
W: 050° 37' 41.12652''

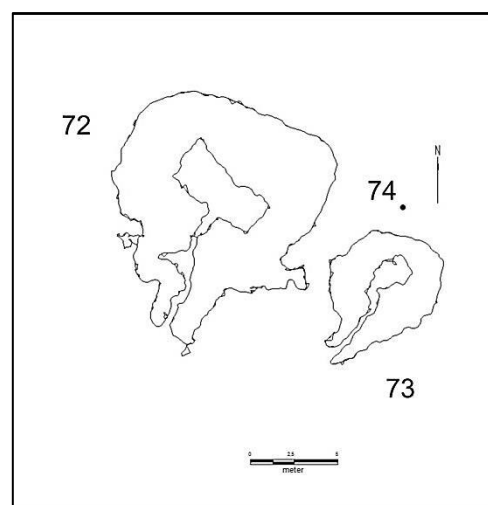


Fig. 7.75 Kangillermiut, structure 72-74

**Structure 74:** Hunters bed. 0.7 m. long.

Coordinates; N: 63° 05' 44.7932'' 9.7 m. asl.  
W: 050° 37' 40.96812''

**Structure 75:** Grave. 1.78 x 0.75 m.

Coordinates; N: 63° 05' 50.2548'' 15.89 m. asl.  
W: 050° 37' 52.248''

**Structure 76:** Three rectangular tone tiles placed in an L-shape. 0.55 x 0.35 m.

Coordinates; N: 63° 05' 50.622'' 7.4 m. asl.  
W: 050° 38' 0.74868''

**Structure 77:** Circular house with entrance towards SE. 6 x 5,5 m. Niche inside the house in the NE wall. Vegetation: High grasses.

Coordinates; N: 63° 05' 51.6876'' 9.7 m. asl.  
W: 050° 37' 57.3204''

#### Summary of observations:

Site	
Site name	Kangillermiut

# 4.4 OTHER INUIT SITES 2012

## 'PEOPLE OF ALL TIMES' - FIELD REPORT

Museum ref	63V2-III-8
Date visited	Aug 22 25, 26, 29, 30 2012 and Aug 19 2013
<b>Location</b>	
N/W (from handheld GPS, ddd.mm.mmm; WGS84)	N 63°05' 50.28" W 050°37'30.26"
Altitude	3-43 m. asl.
Surroundings	The Kangillermiut site is located in a small bay 2.5 km NE of Qeqertarsuatsiaat on the northern coast of the fjord running east west. The site is located on two plains separated by a mountain. Each plain is located between a premonitory and a mountain slope.
<b>Description</b>	The site lies along the coast of an inlet inside a fjord.
Site	Inuit site with numerous Houses, tent houses, grave caches and oter structures.
Midden dimensions	No middens are visible due to erosion and vegetation
Maximum depth	Unknown
Vegetation	Grass, willow, crowberry, Northern bilberry, narrow-leafed willow herb, brackens, moss and lichens.
Outline	
Photos	
<b>Measurements during visit</b>	None
<b>State of preservation</b>	
Buildings/site structure	Most of the sites buildings are located in higher ground protected by vegetation.
Disturbance	The lowermost houses (Structure 57, 58 and 59) at the western part of the site are under erosion from the sea. Structure 2, 4, 5 and 13 may be under threat in the future.
<b>Midden contents:</b>	
Volume excavated during visit	None
<b>Samples taken during visit</b>	None
<b>Research potential</b>	
Undisturbed remains?	
Density of finds	Many structures of varying age make the site interesting for studying cultural change in the area. Many of the houses are placed high in the landscape and potentially has preserved middens.
Areas of research	Historical Archaeology, potentially others
<b>Outreach potential</b>	The site has many well preserved and visible structures probably dating from the 15 <sup>th</sup> to the 18 <sup>th</sup> or 19 <sup>th</sup> century and is located close to Qeqertarsuatsiaat. This makes the site an obvious candidate for an outreach project.
<b>Threats (ongoing/expected)</b> - 1st estimate based on brief visit	Erosion from the sea.

## 4.4 OTHER INUIT SITES 2012

### 'PEOPLE OF ALL TIMES' - FIELD REPORT

Erosion from water/ice, including erosion from waves, boat-traffic, and freshwater	The lowermost 4 houses at the western part of the site is under erosion from the sea.
Other erosion (wind, animals, visitors)	None
Vegetation, roots	None
Drainage	None
Melting, heating	?
Soil movement (including creeping, cryoturbation, slide)	?
Decay of organic materials	?
Other threats	?
Future threats?	Possibly the erosion of the 4 houses already under erosion.
<b>Comparison to earlier descriptions</b>	The site was visited by archaeologists for the first time in 2012
<b>Monitoring</b>	
Already initiated	Photo documentation of the coastline of the eastern part the site and measurements of the coast line by precision GPS.
Suggested	
<b>Important unknowns/ research needed</b>	Location and monitoring of middens and coastline.
<b>Mitigation</b>	
Erosion protection	
<b>Field worker</b>	PKK, PTO

#### 4.4.5 Ammassivik (63V2-III-9)

The 63V2-III-9 site is located 11 km NE of Qeqertarsuatsiat at an inlet. The site was only known from an interview conducted by Jørgen Meldgaard in 1952, but has never been visited by archaeologists prior to the *People of all times project*. At the 2012 visit no certain structures could be seen at the site, although one patch of lime grass at the coast may be hiding a living structure. According to the old interviews the site was used for catching ammassat.



## 4.4

## OTHER INUIT SITES 2012

## 'PEOPLE OF ALL TIMES' - FIELD REPORT



Fig. 4.76 The Ammassivik site with the possible dwelling structure in front.

### Summary of observations:

<b>Site</b>	
Site name	Ammassivik
Museum ref	63V2-III-9
Date visited	Aug 23 2012
<b>Location</b>	
N/W (from handheld GPS, ddd.mm.mmm; WGS84)	N 63°08'19.68" W 050° 22'23.4"
Altitude	0 m. asl.
Surroundings	The site is located at an inlet in an inner fjord
<b>Description</b>	
Site	One possible Inuit structure in the breakwater zone
Midden dimensions	Unknown
Maximum depth	Unknown

# 4.4 OTHER INUIT SITES 2012

## 'PEOPLE OF ALL TIMES' - FIELD REPORT

Vegetation	Lyme grass
Outline	
<b>Measurements during visit</b>	None
<b>State of preservation</b>	
Buildings/site structure	?
Disturbance	If the lime grass patch is hiding a structure it is already eroding.
<b>Midden contents:</b>	No midden observed
<b>Samples taken during visit</b>	None
<b>Research potential</b>	Low.
Undisturbed remains?	None
Density of finds	?
Areas of research	Archaeology and potentially others
<b>Outreach potential</b>	Low unless connected to local myth and histories.
<b>Threats (ongoing/expected)</b> - 1st estimate based on brief visit	If the lime grass patch is hiding a structure, it is already eroding.
Erosion from water/ice, including erosion from waves, boat-traffic, and freshwater	See above.
Other erosion (wind, animals, visitors)	?
Vegetation, roots	None
Drainage	None
Melting, heating	?
Soil movement (including creeping, cryoturbation, slide)	?
Decay of organic materials	?
Other threats	?
Future threats?	?
<b>Comparison to earlier descriptions</b>	The site was first visited by archaeologists in 2012.
<b>Monitoring</b>	None
Already initiated	None
Suggested	Possibly rescue excavation.
<b>Important unknowns/ research needed</b>	To establish, whether a structure is present or not, excavation
<b>Mitigation</b>	
Erosion protection	

# 4.4 OTHER INUIT SITES 2012

## 'PEOPLE OF ALL TIMES' - FIELD REPORT

<b>Field worker</b>	PKK, PLY and PTO
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### 4.4.6 Name Unknown 1

This site is located at the eastern shore of a small point 5 km NW of Qeqertarsuatsiaat into the Sarfaq Fjord north of this settlement.

The site was only unknown prior to the *People of all times project*. During the 2012 visit one tent house close to an erosion front and an indeterminable structure was recorded.



Fig. 4.77 The tent house at the name Unknown 1 site.

**Structure 1:** Trapezoid tent house. Inner measurements; length from entrance to back wall: 4.2 m., width of back wall: 3.7 m. Vegetation: Crowberry, heather, moss, lichens, willow and arctic birch. Well preserved. The tent house lays app. 1 m. from a steep erosion front.

NW 1 meter from the tent house lies several stones beneath the vegetation; 2.3 m. in diameter

Coordinates; N: 63° 08' 12.0''

7 m. asl.

W: 051° 43' 17.7''

### Summary of results:

Site	
Site name	Name unknown 1
Museum ref	
Date visited	Aug 24 2012
Location	
N/W (from handheld GPS, ddd.mm.mmm; WGS84)	N 63°08'13.2" W 050° 4'19.56"
Altitude	7 m. asl.
Surroundings	The site is located on the (protected) west side of an island lying in an inlet

## 4.4

## OTHER INUIT SITES 2012

## 'PEOPLE OF ALL TIMES' - FIELD REPORT

	in an inner fjord. The structure is located on the side of a steep mountain slope
<b>Description</b>	
Site	Inuit site with one tent house
Midden dimensions	Unknown
Maximum depth	Unknown
Vegetation	Crowberry, heather, moss, lichens, willow and arctic birch
Outline	
Photos	
<b>Measurements during visit</b>	None
<b>State of preservation</b>	
Buildings/site structure	Is well preserved with only one stone fallen from the walls.
Disturbance	
<b>Midden contents:</b>	
Volume excavated during visit	None
<b>Samples taken during visit</b>	None
<b>Research potential</b>	Low
Undisturbed remains?	Unknown
Density of finds	Unknown
Areas of research	Historic archaeology and potentially others
<b>Outreach potential</b>	Low
<b>Threats (ongoing/expected)</b> - 1st estimate based on brief visit	None
Future threats?	Possibly erosion from the sea.
<b>Comparison to earlier descriptions</b>	The site was first visited by archaeologists in 2012.
<b>Monitoring</b>	None
Already initiated	
Suggested	
<b>Important unknowns/</b> research needed	Establishing, whether structures are present at the site by small scale test excavation.
<b>Mitigation</b>	
Erosion protection	
<b>Field worker</b>	PKK and PTO



## 4.4 OTHER INUIT SITES 2012

### 'PEOPLE OF ALL TIMES' - FIELD REPORT

#### 4.4.7 63V2-III-14

The 64V2-III-14 site is located 4 km east of Qeqertarsuatsiaat at an inlet in the mouth of a sidefjord to the fjord running E-W from Qeqertarsuatsiaat. The site was only known from an interview conducted by Jørgen Meldgaard in 1952, but has never been visited by archaeologists prior to the *People of all times project*. During the 2012 visit no structures were found at the site.

##### Summary of results:

Site	
Site name	63V2-III-14
Museum ref	63V2-III-14
Date visited	Aug 23 2012
Location	
N/W (from handheld GPS, ddd.mm.mmm; WGS84)	N 63°05'16.08" W 050° 34'59.16"
Altitude	
Surroundings	The site is located at an inlet at the mouth of a side-fjord in an inner fjord system.
Field worker	
PKK, PLY and PTO	

#### 4.4.8 Sassarsuit (63V2-III-15)

The Sassarsuit site is located at the SE end of an island in the mouth of a deep inlet on the south side of the fjord running E-W from Qeqertarsuatsiaat, lying 6 km east of this site. Fox traps and cairns were observed from the boat.

##### Summary of observations:

Site	
Site name	Sassarsuit
Museum ref	63V2-III-15
Date visited	Aug 23 2012
Location	
N/W (from handheld GPS, ddd.mm.mmm; WGS84)	N 63°05'34.44" W 050° 33' 0.72"
Altitude	
Surroundings	The structures are placed on an island in a bay on the south side of the fjord running E-W from Qeqertarsuatsiaat.
Description	
The site is located at the south end of an island inside an inlet in an inner fjord.	
Site	Inuit site with no dwellings or middens
Midden dimensions	

## 4.4 OTHER INUIT SITES 2012

### 'PEOPLE OF ALL TIMES' - FIELD REPORT

Maximum depth	
Vegetation	
Outline	
<b>Measurements during visit</b>	None, as only fox traps and cairns were present
<b>State of preservation</b>	Unknown
Buildings/site structure	None
Disturbance	?
<b>Midden contents:</b>	No midden were observed
<b>Samples taken during visit</b>	None
<b>Research potential</b>	Very limited.
Undisturbed remains?	?
Density of finds	?
Areas of research	Archaeology
<b>Outreach potential</b>	Low
<b>Threats (ongoing/expected)</b> - 1st estimate based on brief visit	None.
<b>Comparison to earlier descriptions</b>	The site was first visited by archaeologists in 2012
<b>Monitoring</b>	None
Already initiated	
Suggested	
<b>Important unknowns/ research needed</b>	None
<b>Mitigation</b>	
Erosion protection	
<b>Field worker</b>	PKK, PLY and PTO

#### 4.4.9 63V2-III-16-18

These three sites are only known from an interview conducted by Jørgen Meldgaard in 1952, but has never been visited by archaeologists prior to the *People of all times project*. During the 2012 visit no structures were found at the sites.

<b>Site</b>	
Site name	63V2-III-16, 17 & 18
Museum ref	As above

## 4.4 OTHER INUIT SITES 2012

### 'PEOPLE OF ALL TIMES' - FIELD REPORT

Date visited	Aug 22-23 2012
<b>Location</b>	
N/W (from handheld GPS, ddd.mm.mmm; WGS84)	N 63°06'15.84" W 050° 31' 53.4", N 63°06'40.32" W 050° 33' 1.8", N 63°06'52.2" W 050° 31' 3"
Altitude	
Surroundings	
<b>Field worker</b>	PKK, PLY and PTO

#### 4.4.10 Qeqertarsuatsiaat (63V2-III-25)

A few historic structures were observed on a knoll in the eastern part of the town overlooking the cemetery.

**Structure 1:** Stone structure built on a slope against big boulders. Possibly a hunters shelter. Vegetation: willow, crowberry and lichens.

Coordinates; N: 63° 05' 10.2''  
W: 050° 40' 39.9''

**Structure 2:** At least four graves build together. Built in a crescent formation measuring 10 m. on a west-facing slope. Vegetation: willow, crowberry and lichens.

Coordinates; N: 63° 05' 11.9''  
W: 050° 40' 37.8''



Fig. 4.78 Qeqertarsuatsiaat, structure 2.

#### Summary of observations:

<b>Site</b>	
Site name	Qeqertarsuatsiaat
Museum ref	63V2-III-25
Date visited	Aug 23 2012
<b>Location</b>	

# 4.4 OTHER INUIT SITES 2012

## 'PEOPLE OF ALL TIMES' - FIELD REPORT

N/W (from handheld GPS, ddd.mm.mmm; WGS84)	N 63° 05' 11.4" W 050° 40' 31.44"
Altitude	?
Surroundings	The structures are located on a knoll in the eastern part of the town overlooking the cemetery.
<b>Description</b>	
Site	Inuit site with no dwellings or middens
Midden dimensions	None
Maximum depth	None
Vegetation	Willow, crowberry and lichens
Outline	
<b>Measurements during visit</b>	None
<b>State of preservation</b>	Unknown
Buildings/site structure	Both structures are disturbed by human activity
Disturbance	
<b>Midden contents:</b>	No midden were observed
<b>Samples taken during visit</b>	None
<b>Research potential</b>	Very limited.
Undisturbed remains?	?
Density of finds	?
Areas of research	Archaeology
<b>Outreach potential</b>	Low
<b>Threats (ongoing/expected)</b> - 1st estimate based on brief visit	Furhter human activity
<b>Comparison to earlier descriptions</b>	The site was first visited by archaeologists in 2012
<b>Monitoring</b>	None
Already initiated	
Suggested	
<b>Important unknowns/ research needed</b>	None
<b>Mitigation</b>	
Erosion protection	
<b>Field worker</b>	PKK



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## 5.1

## NORSE SITES 2013, INTRODUCTION

## 'PEOPLE OF ALL TIMES' - FIELD REPORT

## 5.1 Introduction

The 2013 field work in the Ameralik Fjord, West Greenland, was carried out as the second and last part of the “Alle Tiders Mennsker” (ATM) pilot-project –on Norse heritage sites. The aims of the ATM pilot-project is to get a broader overview of the different climate induced threats to archaeological sites as well as to assess their research potential and pinpoint core research sites.

The 2013 field work on Norse heritage sites was carried out from Aug.16.-24. 2013 and included test excavation at Kilaarsarfik/Sandnes (V51) to obtain aDNA-samples, the collection of monitoring data, and the assessment of the state and preservation of ‘The Farm Beneath the Sand’ (GUS). Additionally, the preservation of and threats to Norse sites at Nipaatsok (V54) and Naajat Kuuat (V63) were assessed.

The 2013 Norse field team included (fig. 5.1 from the right):

**CKM = Christian Koch Madsen (The National Museum of Denmark/University of Copenhagen)**

**JH = Jørgen Hollsen (The National Museum of Denmark/University of Copenhagen)**

**TRO = Tupaarnaq Rosing Olsen (writer, journalist, hunter)**

**MM = Morten Meldgaard (Natural History Museum of Denmark)**

**AEL = Ann Eileen Lennert (Greenland Climate Research Centre, University of Greenland)**

**IL = Inumineq Lennert (Ann’s son)**

**MA = Morten Allentoft (Centre for GeoGenetics, Natural History Museum of Denmark)**



**Fig. 5.1** The ATM 2013 Norse field team (*photo: M. Allentoft 2013*).



## 5.1

## NORSE SITES 2013, INTRODUCTION

## 'PEOPLE OF ALL TIMES' - FIELD REPORT

**5.1.1 Summary of results:**

The investigations of the 2013 ATM Norse field season included inspection and threat assessment of 4 Norse heritage sites (V51, V54, V63, GUS), the results of which are summarized in table 1 (explained in detail in appendix 1). Of these sites, V51 represents both the best preserved and most threatened site (as summarized in the Preservation/Threat index far right in table 5.1). Across the sites, threats from vegetation increase appears the most critical, erosion and human impacts only posing little or no threats to the visited sites.

**Table 5.1: Preliminary evaluation of the state of preservation and threats to the sites**

Site:	Preservation:	Erosion threat	Human Impact	Vegetation	Permafrozen	P/T index
Kilaarsarfik/V51 features <sup>1</sup> -	3	2	1	3	No	(3/6) 18
Kilaarsarfik/V51 midden <sup>1</sup> -	3	2	2	2	Yes	(3/6) 18
Nipaatsoq/V54 features <sup>1</sup> -	2	1	0	2	No	(2/3) 6
Nipaatsoq/V54 – midden <sup>1</sup>	2	0	0	1	Unknown	(2/1) 2
Naajat Kuuat/V63 features -	2	0	0	3	No	(2/3) 6
Naajat Kuuat/V63 midden -	Unknown	0	0	3	Unknown	(-/3) -
GUS – features <sup>1</sup>	3	2	0	0	Yes	(3/2) 6
GUS – midden <sup>2</sup>	-	-	-	-	-	-
<b>Accumulated threat:</b>	-	7	3	14	-	-
0 = none/no, 1 = low/little, 2 = medium/some, 3 = high/excellent, - = lacking <sup>1</sup> partly excavated/eroded prior to observation; <sup>2</sup> Midden completely eroded prior to observation						

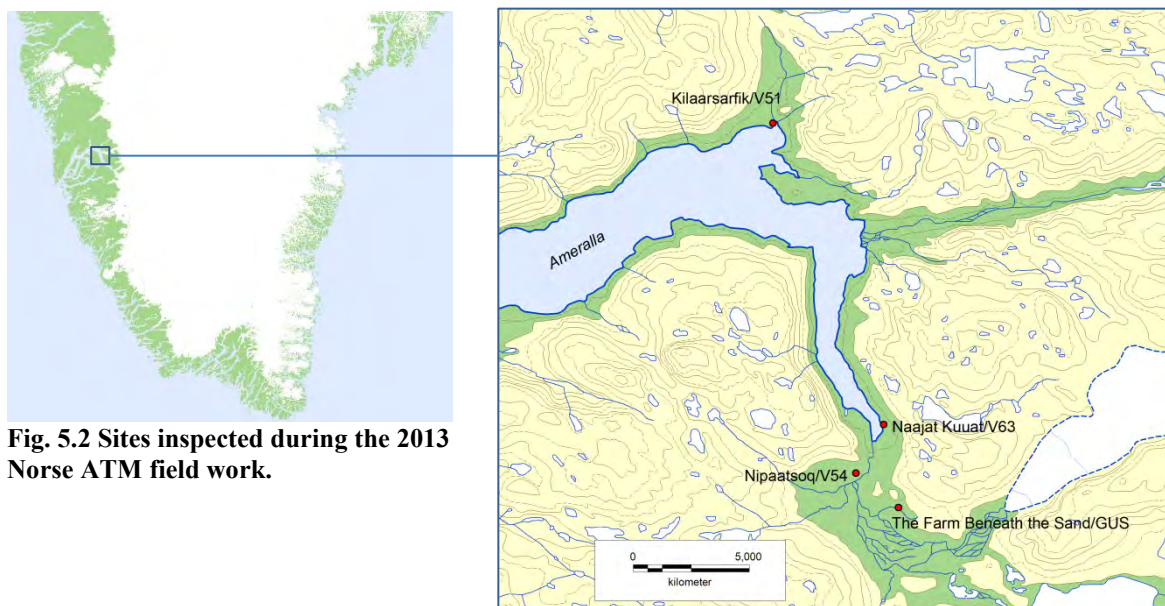
Test excavations were carried out at V51 and GUS: At V51 a small section of the western part of the churchyard wall was uncovered as well as parts of an undisturbed Norse double burial inside the churchyard, securing samples for aDNA-analysis. The test excavation at V51 produced 13 finds numbers and 6 samples (appendix 2). At GUS a single test pit was opened to ascertain the presence of cultural layers and their preservation, producing 3 finds numbers and 5 samples (appendix 3). In summary, all the projected field work aims were achieved and additional sites inspected. Finds- and sample numbers continue from the ATM 2012 interim field report.

Original documentation and finds from the excavations are kept at the National Museum of Greenland, the samples at the Centre of Geogenetics, Natural History Museum of Denmark.

## 5.1

## NORSE SITES 2013, INTRODUCTION

'PEOPLE OF ALL TIMES' - FIELD REPORT



**Fig. 5.2** Sites inspected during the 2013 Norse ATM field work.

### 5.1.2 Field diary 2013

**Fri. 16.08.2013:** The Norse team was picked up in Nuuk 08.00 by Michael Rosing and then sailed directly to Kilaarsarfik/Sandnes/V51, where we arrived c.10.00. We immediately went about setting up camp, which was completed c.11.45 after which we had lunch.

After lunch we went to inspect the erosion front by the beach in front of the farmstead to find a suitable location to place our trench in an undisturbed and unexcavated part of the cemetery, hoping there to find human skeletal remains for DNA-analysis. We used Roussell's 1936 excavation/site plan (fig. 5.9) to identify an untouched part of the cemetery and decided on a location just S of his trench in the cemetery. We then opened a c.1x2m trench (Area FVIII) and rather quickly came upon what is interpreted as the outer edge of the medieval churchyard wall. We documented this and then stopped excavating, since we were unlikely to discover any skeletal remains beneath the wall and would have to take a long time excavating it.

While area A was being excavated, MM located human bones in a small test pit inside (Area F IX) what we thought was Roussell's excavation grid, which we decided to extend the following day at low tide. MM and AEL spend the rest of the day building a low wall of stones and dirt in the hope that it would partially keep out or, at least, delay the tide from spilling into the excavation.

Meanwhile, JH checked the monitoring devices and weather station, which looked to be working fine although he was unable to download the data because of a software error.

*Weather:* A quiet and warm day with light cloud cover and some sunny spells. After 20.30 a quick sprout of heavy rain and some wind.

## 5.1

## NORSE SITES 2013, INTRODUCTION

## 'PEOPLE OF ALL TIMES' - FIELD REPORT



**Fig. 5.3** Jørgen Hollesen from the National Museum checks how the climate station at Kilaarsarfik/Sandnes survived its first winter (photo: C.K. Madsen 2013).

**Sat. 17.08.2013:** After breakfast, CKM and AEL extended (to the N and E) the test pit that MM had dug the previous day to a 1x1m trench (Area F IV), so that the test pit made up about  $\frac{1}{4}$  in the SE corner of area B. We excavated the trench all the way to the skeletal parts, which we then documented and sampled for DNA-analysis.

Meanwhile MA, MM, and JH backfilled area A and went about looking for suitable places to drill out samples of frozen midden for dirt-DNA analysis.

*Weather:* Scattered clouds, a light wind, and c. 12-18°C.

**Sun. 18.08.2013:** AEL, IL, JH, and TRO packed down their tents and equipment as they were to be picked up by Flemming Heinrich of the Nature Institute at 10.00. Before the arrival of the boat, MA cored the midden for frozen DNA-samples (S1-3). These samples were sent with the boat, so that they could be put in a freezer as quickly as possible.

After their departure, CKM staked out a new 1x1m trench in the SW corner of Area F IV and excavated to the depth of the two skeletons. Teeth (x35-36) were extracted for DNA-analysis, the skeletons and trench were documented and then backfilled.

After finished excavation, CKM, MM, and MA packed up their gear and tents and waited to be picked up for transport to Naajat Kuuat by the Petersen hunters (Agnete and Ivar H. Petersen) (fig.4.). They arrived at 18.00 and we then sailed up the glacial river of Naajat Kuuat in their homemade barge, occasionally getting out to drag the boat over a shallow part of the river. It was, on all accounts, a remarkable and beautiful trip! We arrived at the hunters' camp E of Naajat Kuuat just before 20.00. We quickly set up camp and enjoyed a nice evening with the hunters.

*Weather:* Beautiful sunny and warm day with a light breeze from the fjord. First night of frost!



## 5.1

## NORSE SITES 2013, INTRODUCTION

## 'PEOPLE OF ALL TIMES' - FIELD REPORT



Fig. 5.4 C.K. Madsen and M. Allentoft carry equipment to the Ivar Petersen's self-built barge for transport up the glacial river Naajat Kuuat to their camp close to V63 (photo: M. Meldgaard 2013).

**Mon. 19.08.2013:** After breakfast we went along the coast to inspect V63 on the same side of the river as the hunters' camp. We quickly found the nicely preserved and large skemma and then located the dwelling complex, which is very overgrown.

After inspecting V63 we went back to the hunters' camp, packed our gear and began to hike inland towards GUS. Unfortunately, we walked right past and continued along the edge of the glacial outwash plain (fig.5.5) all the way to the point, where it opens towards the Kangaasarsuup Sermia glacier. Reaching that point, we were certain that we had passed GUS and then started hiking back. We found the site c.17.00 and set up camp close by and rested after the prolonged hike.

*Weather:* Beautiful sunny and warm day with a brisk wind from the fjord in the afternoon. Frost again during the night.

## 5.1

## NORSE SITES 2013, INTRODUCTION

## 'PEOPLE OF ALL TIMES' - FIELD REPORT



**Fig. 5.5** Hiking towards GUS; having first missed the site, we surveyed several km's too far along the glacial outwash plain and melt water river (photo: M. Meldgaard 2013).

**Tues. 20.08.2013:** After breakfast we closely inspected the site and next located a suitable spot for 1x1m test trench (area A) close to the now vegetated erosion front. We spaded our way down until we reached cultural deposits, the surface of which was cleaned off, documented, sampled, and the excavation then backfilled.

We spend the rest of the day surveying in different directions around GUS finding no other features.

*Weather:* Beautiful sunny day with a light breeze from the fjord. Frost during the night.

**Weds. 21.08.2013:** After breakfast we took down the camp at GUS and hiked back to the hunters' camp at the river (fig.6). The hike only took 1 ½ hour with about 25kg's in the backpack and at a nice leisurely pace with a few stops for photography! We arrived at the (now empty) camp c.12.30, set up camp and had lunch.

After lunch, CKM went over to V63 to test for permafrost and in the evening, CKM surveyed parts of the coast N of V63, locating a few new features.

*Weather:* Calm, sunny and extremely warm day.





**Fig. 5.6** From the hike back to the hunters' camp at Naajat Kuuat: view of the plain and meandering melt water river just below the waterfall (photo: M. Allentoft 2013).

**Thurs. 22.08.2013:** Walked back to V63 N along the coast to register the two features found by CKM upon the previous evening. We then went back and waited for the return of the hunters at their camp; they arrived shortly before 13.00. After lunch with them, they sailed us across Naajat Kuuat c.15.00 in order for us to go up river to inspect Nipaatsq/V54 and onwards to a "pit" in the river, which MM had seen in 1976 as a place of potential for caribou population dynamics.

We briefly inspected Nipaatsq and then continued towards the "pit" in the river. However, as we had gotten such a late start, we did not deem it possible to reach this location and at the same time keep our appointment with Ivar to sail us back to camp, so after a few km we started hiking back towards the mouth of the river. The hike back, from some 2km S of Nipaatsq and down to the mouth of the river took about 1 ½ hours, where we met Ivar c.17.30 coming down with a caribou and then sailed back to the camp.

*Weather:* Extremely warm and quiet day, from 16.00 with scattered cloud cover.

**Fri. 23.08.2013:** After breakfast, we took down our camp and Ivar sailed us back down the river and across to Kilaarsarfik, which we reached c.11.00. We then set up camp and then went about repacking the boxes for transport the next day. We finished c.13.00 and had lunch. Afterwards, CKM went surveying in the valley and mountains just E of Kilaarsarfik until c.18.00, finding nothing but newer cairns marking routes across the mountains and not finding the enclosure described by Bruun.

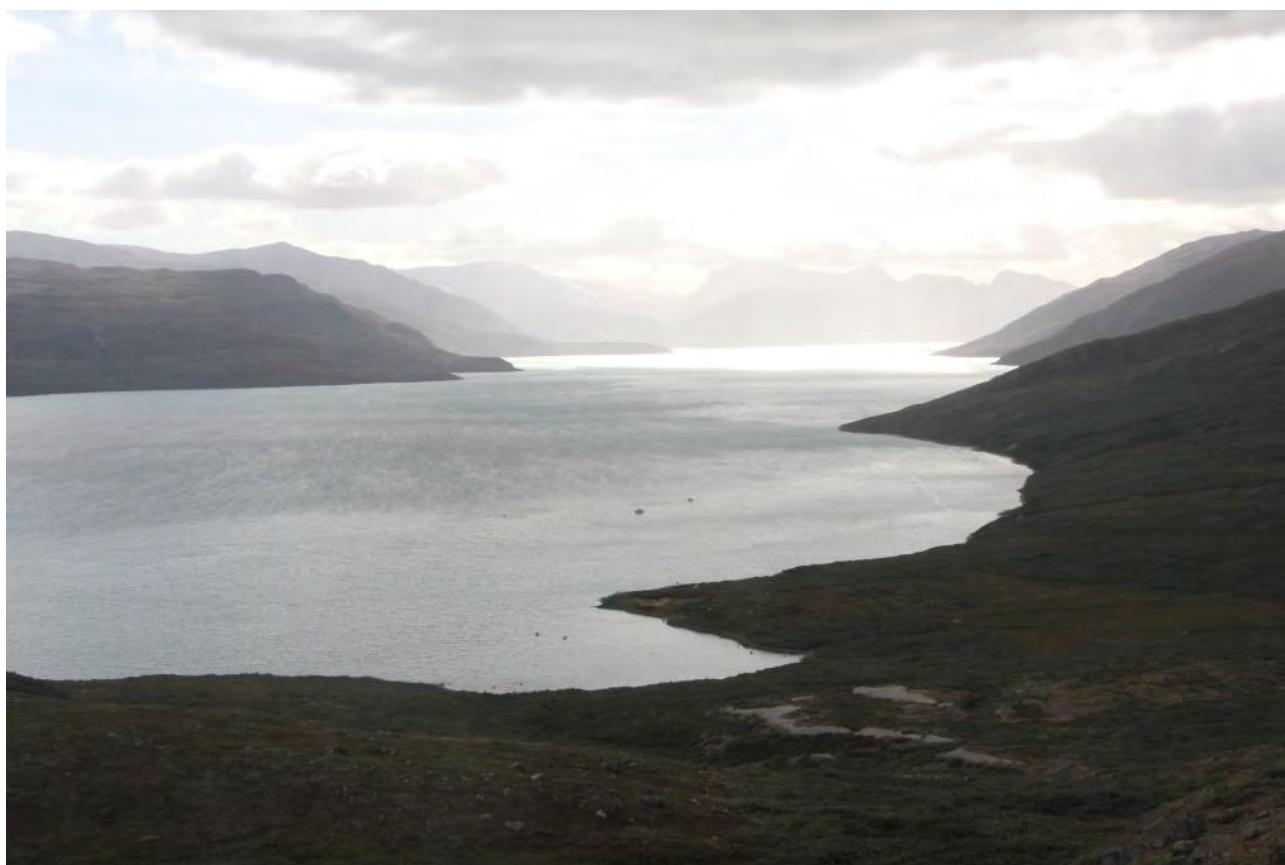
*Weather:* Light cloud cover, but very warm and calm.

**Sat. 24.08.2013:** Michael Rosing arrived with boat from Nuuk c.09.30: H.C. from the museum and MM went to reinstall the wiring of one of the monitoring devices at Kilaarsarfik, while MA and CKM helped drag the equipment onto the boat for transport. We then sailed back towards Nuuk, reaching the harbor just after 13.00, thereby ending the 2013 ATM field season.

## 5.2 V51 – Kilaarsarfik/Sandnes

### 5.2.1 Site Description

V51 is located in the northeastern corner of the Ameralla branch of the Ameralik fjord (fig. 5.2). The site is located at the southern mouth of valley that connects the Ameralla fjord branch to the Kapisillit fjord. The ruins lie on the eastern side of a rather wide alluvial fan (fig.5.7). From the fjord the alluvial fan ascends only very gently up towards the valley. The bay in front of the alluvial fan is extremely shallow and exposed silted seabed extends more than a 100m's from the coast at lowest tide. Apart from the extremely grassy and fertile vegetation on the ruins and parts of the relict homefield, the terrain is completely dominated by lush and thick willow scrub. Some 9-11 ruins have been registered at V51, which constituted a Norse chieftain's seat with associated church.



**Fig. 5.7** View looking ESE out the Ameralla fjord branch. Kilaarsarfik/Sandnes is located on the closer side of the alluvial fan seen centrally in the photograph (photo: C.K. Madsen 2013).

### 5.2.2 Main investigation aims

The aim of the 2013 investigations at V51 was to explore the research potential of the site by searching for human skeletal material for aDNA-analysis, coring of the midden for dirt-DNA analysis, as well as to download data from the climate station and monitoring devices installed at the site in 2012 (see chapter 3 for description of data). All had to be done with minimal impact to the midden area.



### 5.2.3 Prior archaeological investigations

D. Bruun carried out the first excavations at V51 in 1903 (Bruun 1917:95pp). Bruun excavated along the erosion front at the cemetery unearthing 5 crania and as well as several other human bones. Bruun was also the first to supply a survey plan of the site, church, and church yard (fig.5.8-5.9). In regard to the latter, it is worth noting that Bruun mapped the church as lying centrally in the churchyard, as well as the direction and extend of the northern, eastern, and southern churchyard enclosure wall; the western half he suspected was hidden in the erosion front.

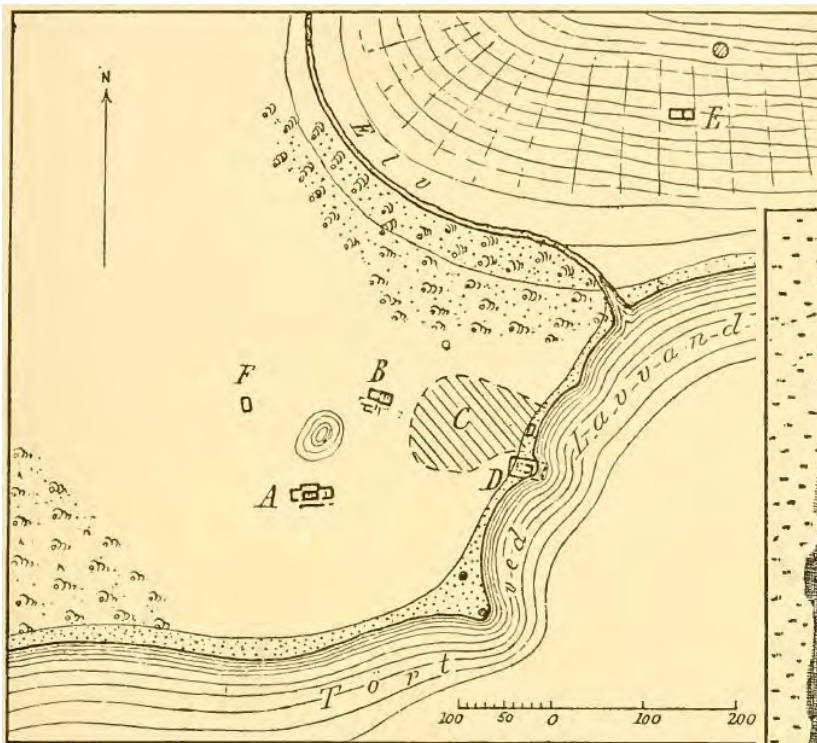


Fig. 5. 8 Left: D. Bruun's 1903 sketch survey plan of the ruins at Kilaarsarfik/V51 (after Bruun 1917).

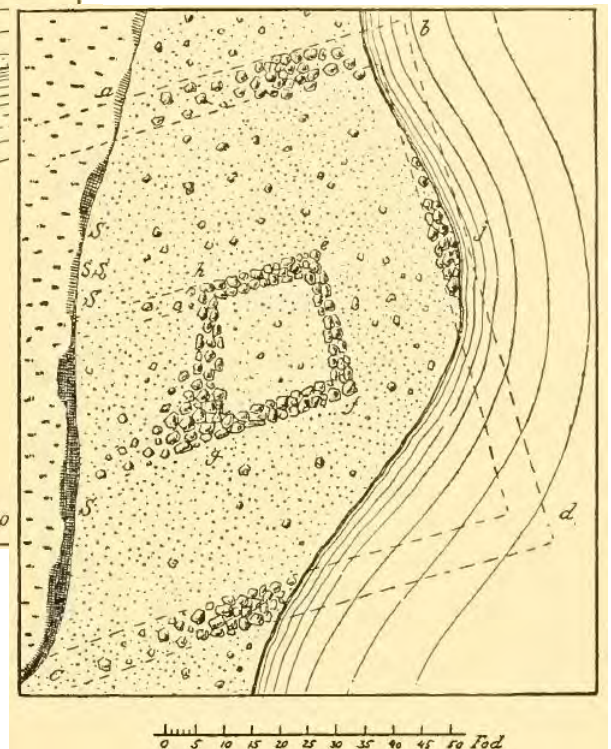


Fig. 5.8 Right: D. Bruun's 1903 sketch survey plan of the church and churchyard at Kilaarsarfik/V51. Note Bruun's placing of the eastern churchyard enclosure wall (after Bruun 1917).

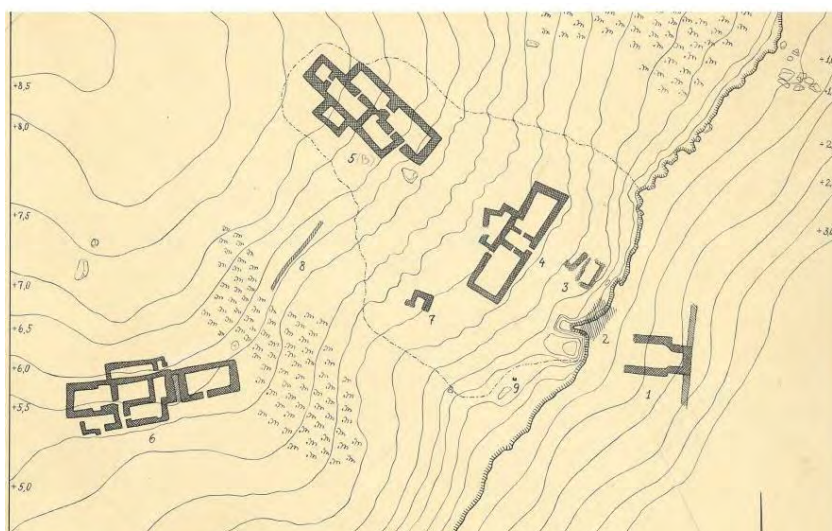


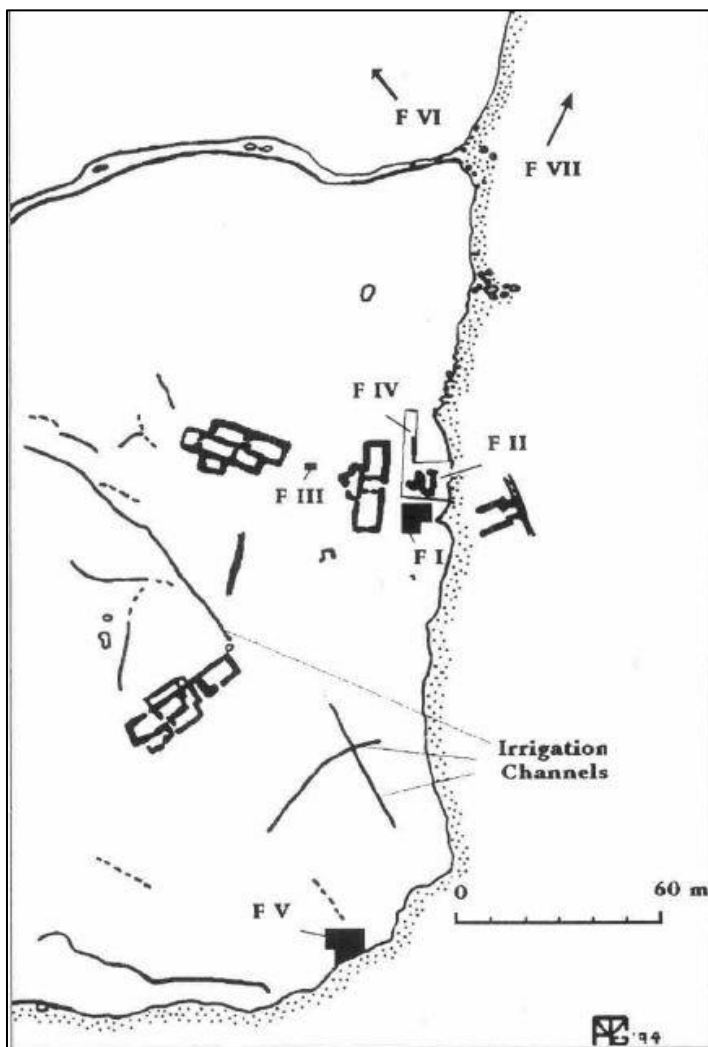
Fig. 5.9 Extract of Roussell's 1936 survey plan of the ruins at Kilaarsarfik/V51. No.2 signifies the extent of the excavation in the churchyard. Note the placing of the eastern churchyard enclosure wall (after Roussell 1936).

In 1930 and 1932, P. Nørlund and Aa. Roussell conducted large scale excavations at V51 of both structural features, church, and churchyard (Roussell, 1936). The latter produced the first accurate survey plan of the site (fig.5.9).

Besides the excavation of the ruins, Roussell excavated 26m<sup>2</sup> of the western churchyard, unearthing 42 interments, which were brought

back to the Museum of Normal Anatomy in Denmark (Ibid.16p) and are now kept at the PANUM-institute at the University of Copenhagen. As to the churchyard enclosure and church, Roussell – dissimilar from Bruun – mapped the eastern churchyard wall as parallel to and adjoining the eastern gable of the church itself (fig.5.9); Roussell describes this wall as ‘*a row of stones*’. However, in all likelihood this ‘row of stones’ did not represent wall proper, but rather disorderly wall collapse moved up shore by the ice since Bruun’s survey. Today, a similar line of stones is seen lying even further up the beach representing the same later phenomenon. As to the western enclosure wall of the churchyard, Roussell noted ‘accumulations of large stones’ along the fjord bank, which he interpreted as the disturbed western enclosure wall, which was reaffirmed by the fact that no interments were found beyond this wall collapse.

In 1984 large scale rescue excavation was carried out, mainly of midden, but also of a nearby paleo-Inuit site and late-historic site (Arneborg 1985, McGovern *et al.* 1996). The 1984 excavation concentrated in the midden just SE of the dwelling (ruin no.4), area F I (fig 5.10).



**Fig. 5.10** Survey plan of Kilaarsarfik/V51 and the 1984 excavations. In order to avoid confusion, the 2013 excavation areas have been renumbered to follow this numbering system. Note however that there also exists another (unpublished) numbering system for the areas. (after: McGovern *et al.* 1996).



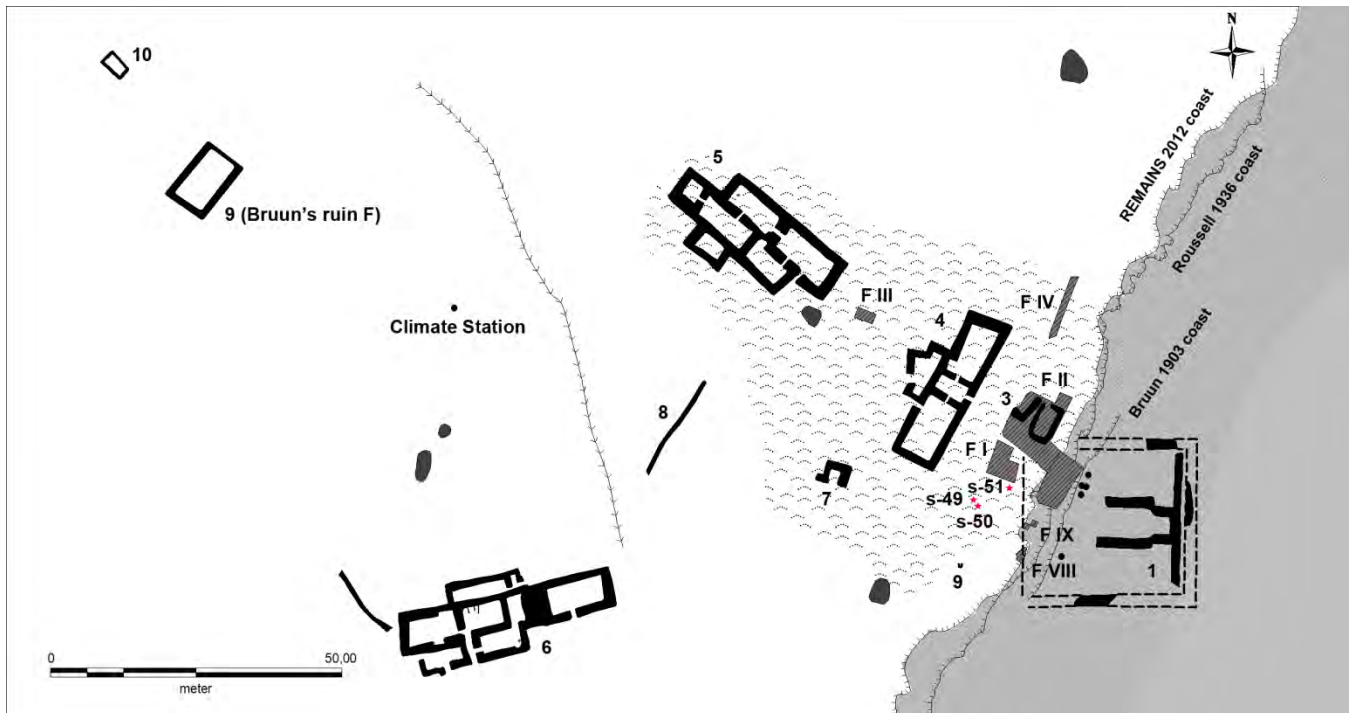


Fig. 5.11 Survey plan of Kilaarsarfik/V51 based on georeference of the Bruun's 1903 church plan and the 1930, 1932, 1984 site plans; with the addition of ruins 9-10 located in 2012 and the excavation and sample areas of 2013. Grey areas represent excavation areas, red stars dirt-DNA cores.

#### 5.2.4 2013 Excavation of area F VIII (fig.12-16)

Excavation of area A was undertaken in order to procure new uncontaminated human skeletal material for aDNA-analysis with minimal impact to the cultural layers of the midden. We wanted to avoid areas that had been previously excavated. Assuming that Roussell had carried his churchyard excavation to the subsoil and removed or disturbed all skeletal parts unearthed, we thus wanted to avoid his old excavation area. In order to do so, we staked out a line in continuation of the southern gable of ruin 4 (fig.5.13), thereby making certain that we would be S of Roussell's excavation area (fig.5.14), but still within the churchyard. We then searched the beach below the erosion front for an area not too eroded, but neither overlain with thick midden deposits that we would first have to remove, deciding upon the area shown in fig.5.14.



Fig. 5.12 The location of area F VIII prior to excavation. Note how a chunk of the overlaying vegetated midden has broken off and the tide has been undercutting the erosion front. Note also the many stones (photo: C.K. Madsen 2013).





**Fig. 5.13 Opening of the F VIII trench. Note the area clear of stones just behind the trench (photo: M. Meldgaard 2013).**

We staked out a c.1x2m area and then began clearing out the heap of stones and loose blocks of sedge turf lying just below the erosion front (fig.5.14-15). With spade and shovel, we removed the loose stones and intermittent soil and used this to build a low wall around the trench in the hopes that this would keep, at least, delay the high tide from spilling into the trench (fig.5.16). In the soil between stones were some poorly preserved animal bones from the eroded midden deposits, all of which were collected (x25).

After removing the top stones and patchy vegetation layer, we found more stones intermixed with what were clearly disturbed midden deposits with some still rather poorly preserved bones. Having removed the loose collapse stone on top and their underlying 20-30cm of stones and mixed midden deposits, we came upon more unmixed deposits, resting against and flowing between fewer, but larger stones. From there excavation was carried out more gently and we quickly came upon some horizontally laying large stones in the southern half of the excavation area, which after cleaning proved to lie in an almost straight line (fig. 5.16). The now fairly undisturbed and sloping midden layers of the northern half area were seen to just spill over, but mostly resting against these stones.

Having found the first horizontal stones, we were quickly able to trace others in continuation of this line. Observing how the stones mostly lay horizontally with a flat side facing upwards and with thin layers of turf on top and in between, it seemed very likely that we were dealing with part of some kind of stone-turf wall, most likely a small part of the churchyard enclosure wall. From the midden deposits resting against the line of stones and their slope to the east, it is probably the western boundary of the enclosure wall, which seems to have slumped into the churchyard.



**Fig. 5.14 Excavation of area F VIII: the excavated soil and collapse stones was used to build a dike around the excavation area in order to keep out the tide (photo: M. Allentoft 2013).**



**Fig. 5.15** Left: photo of cleaned area F VIII after ended excavation (photo: C.K. Madsen 2013). Right: Digitalized plan of area F VIII: Dark grey filling signifies *in situ* stones interpreted as part of the churchyard enclosure wall; light grey are interpreted as collapse stone.

The interpretation of the feature in area F VIII as the churchyard enclosure wall was reinforced during the digitalizing and georeferencing of the excavation plans: extending the short stretch of wall in F VIII in straight lines to the N and S results in the projected western extent of the churchyard shown in fig.5.13. This line corresponds extremely well with the general layout of the other projected churchyard enclosure walls, and with the observation of Roussell of faint traces of collapsed wall beyond which no more interments were found (west of his area 2, fig.5.11) (Roussell 1936:15). However, it should be noted that we had no precision-GPS available to survey the area, wherefore the projection of enclosure wall and the location of the trench may be slightly inaccurate. Nonetheless, adjustment of the projected enclosure wall would likely effect minor changes in extend and plan rather than any drastic alteration of the enclosure wall.

Realizing that we were likely dealing with the western enclosure wall of the churchyard, we stopped excavating and cleaned up and documented the feature. We decided to abandon further excavation: first of all, because we had very little time to conduct a proper excavation, which would in any case require us to extend the trench significantly. Secondly, the erosion of the coastline in that area seems very limited and the wall – still fairly undisturbed – can await larger future excavation. Thirdly, since we seemed to be right on top of the enclosure wall then even if we removed the large *in situ* stones, we were still unlikely to find any human skeletal remains underneath. Accordingly, we closed up and backfilled the excavation and secured the erosion front as best we could.



### 5.2.5 2013 Excavation of area F IX (fig.17-31)

As we came to the recognition that we were dealing with *in situ* wall – and likely churchyard enclosure wall – remains in area F VIII, we were facing the possibility of not meeting our primary excavation aim, i.e. finding human bone for aDNA-analysis. Thus, while we were cleaning up the wall in area F VIII, we were still contemplating whether to carry through the excavation and extending the trench, hoping to find human skeletal remains.

Just north of area F VIII was a flat stretch of beach, which we expected to be Roussell's old excavation area in the churchyard, because it was virtually free of stones (fig.5.15, 5.16). In order to help us decide how to progress with the excavation, we decided to make a small test pit in that area to establish the depth of the subsoil into which the Norse interments would have been cut, thereby giving us some indication of how far we had to go in area F VIII if we were to continue excavating there.

Towards the bottom of the test pit, poorly preserved human long bones – tibia or fibula – appeared, fragmented by the spade. As the tide was coming in (fig.5.16 and swelling up in the bottom of the pit, their context was unclear. Yet, we got just see more bones lying *in situ*. We therefore decided to extend the test pit the following day and built a low wall of stone and soil around the area (fig.5.17) in order to keep out, or at least delay, the from spilling into the excavation.



Fig. 5.16 The stretch of flat beach with little stone just north of area F VIII, where a test-pit revealed human bones. Visible in the photography is the slight grass cover of the beach indicating that the surface is rather stable, yet flooded during at high tide. This is where we decided open area IX (photo: M. Meldgaard 2013).





**Fig. 5.17** Opening of area F IX. Having staked out a 1x1m area in extent of the test pit, we began shaving of thin layers with shovel (*photo: M. Allentoft 2013*).

The following day at low tide we staked out a 1x1m area, extending the test pit N and W so that it would make out roughly the SE  $\frac{1}{4}$  of the 1x1m area (fig.5.18-20). We then started excavating area IX with shovel, shaving of thin layers to have some stratigraphic control. The first layers of [01] consisted of a series of thin layers of alluvial silt deposits separated by thin vegetation horizons. The layers contained only very few smaller stones, few poorly preserved animal bones (probably outwash from the eroding midden), and, more significantly, some pieces of woven cloth sandbags, plastic, glass, cartridges, i.e. indicating the modern origin of these layers. We thus suspected these layers to have been deposited after Roussell's excavation.



**Fig. 5.18** the first 1x1m of area F IX upon reaching the more sandy layer [02], which had no recent inclusions. In the SW-corner the outline of the test-pit wherein we put a stepping-stone (*photo: C.K. Madsen 2013*).





**Fig. 5.19** The first 1x1m of area F IX after ended excavation. Two out of the three femurs sampled for aDNA-analysis have already been removed at this point (photo: C.K. Madsen 2013).

Upon reaching a seemingly more undisturbed sandy layer [02] (fig.5.20), which was just above the depth of the bones discovered the previous day, we began excavating with trowel and very quickly found the first human bones in the SW corner of the trench. The bones were rather poorly preserved, their surface coming off upon light touch. Using plastic gloves and masks, 3 of these bones (x26-29) were quickly exposed, documented, and then immediately taken out for DNA-analysis to prevent any unnecessary contamination. Thereafter, the rest of the exposed bones were cleaned more thoroughly, documented, and then taken up as we best could with their poor state of preservation. As the tide was coming in, we decided to stop excavating at this point.



**Fig. 5.20** The second 1x1m of area F IX after ended excavation. The two skulls, as well as a right humerus, are clearly visible. As is the outline of the grave cut in the compact silty subsoil (photo: C.K. Madsen 2013).

We then left area F IX open during the night to see how the rising tide would affect the trench in case we would have to continue the excavation to produce some human teeth, which are ideal samples for aDNA-analysis. However, the flat stretch of beach with area F IX was completely flooded even though the tide was at a minimum. The next day, we marked out the bottom edge of area F IX with plastic tape and then backfilled it.

Thereafter, we staked out a new 1x1m trench in continuation of SW corner of area F IX (fig.5.26) and began excavating in layers with shovel until reaching the more sandy soils [02], thereafter continuing with trowel. Apart from sloping more towards the fjord, the layers showed much the same sequence and content as in the first 1x1m trench.

In the NE corner of the trench, the top of a right humerus and two ribs appeared, but we left them barely exposed in order to secure the best *in situ* preservation. Thus, from there excavation was only carried out where the skulls were supposed to be located, to secure the teeth for aDNA-analysis (fig.5.21-22). Once the two poorly preserved skulls were located, excavation was carried out around them only to a depth where their orientation and position of the teeth could be determined. Thereafter, only the areas around the teeth were excavated in order for some of them to be extracted for aDNA-analysis – 4 teeth from skeleton 2, next 3 teeth from skeleton 1 (x35-36). The rest of the skulls were left unexcavated to secure the best possible *in situ* preservation for future excavation (fig. 5.23).



Fig. 5.21 The skull of sub-adult skeleton 1 before extraction of teeth for aDNA-analysis (photo: M. Allentoft 2013).



Fig. 5.22 The skull of adult skeleton 2 before extraction of teeth for aDNA-analysis (photo: M. Allentoft 2013).



Fig. 5.23 The partly exposed skeletons in the second 1x1m of area F IX seen towards the NE (photo: M. Allentoft 2013).





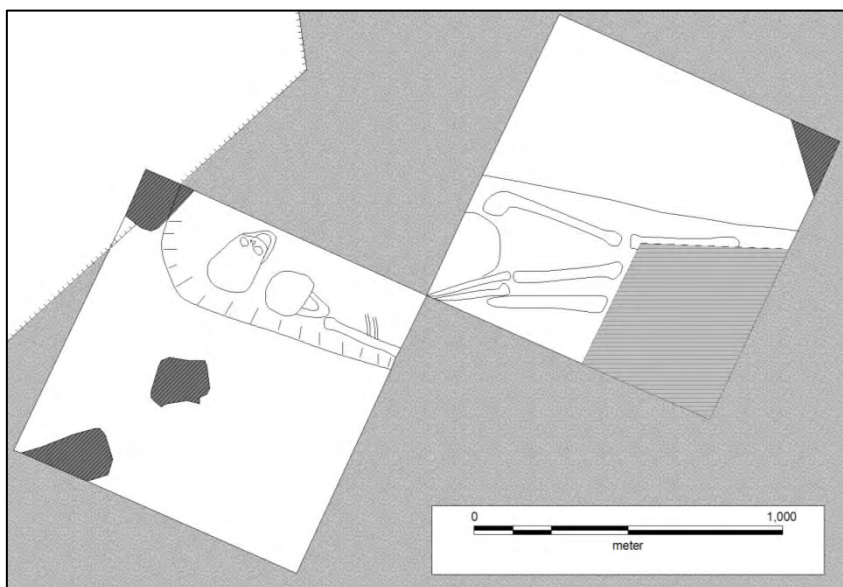
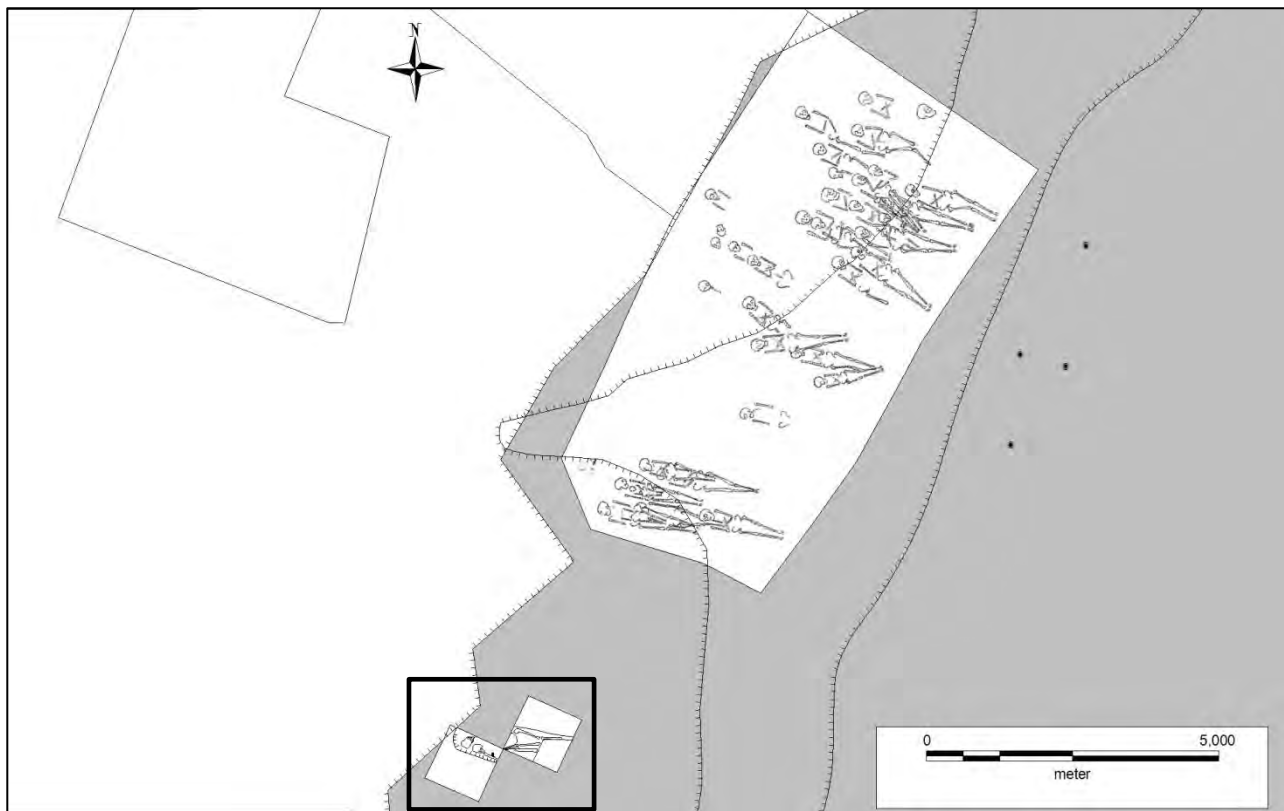
**Fig. 5.24 Area F IX after ended excavation.** We decided to leave the low protection wall to mark and protect the area for future excavation (*photo: C.K. Madsen 2013*).

Having finished sampling and documentation, the bottom edge of area F IX's second trench was marked out with plastic tape, the skeletal parts nicely and gently packed in loose soil to protect them, and the trench then backfilled. We decided to leave in place the low protection wall we had built to protect and mark the area for future excavation (fig.5.24).



**Fig. 5.25 The beach and erosion front of area F VIII and F IX at highest tide** (*photo: C.K. Madsen 2013*).

### 5.2.6 The 2013 V51 Grave and Skeletons



**Fig. 5.26** Digitalized and georeferenced excavations plans of Rousell (1936:fig.7) and the 2013 excavation of area F IX (above), with the grave in area F IX enlarged (left). The black dots on the top plan indicate where Bruun excavated skulls in 1903 (cf.fig.9). The correspondence between the position of Bruun's skulls and Rousell's skeletons suggest the correctness of the georeference. The unexcavated area between Rousell's and the 2013



As mentioned above, during excavation we were certain that area F IX lay within Roussell's 1930-32 excavation area in the churchyard. This interpretation was also supported by the finds of modern artifacts in the upper layers [01]. Finding the two undisturbed graves, we therefore assumed that Roussell had not carried through the excavation – which was often the case – perhaps due to the difficulties of the flooding.

However, after georeferencing the excavation plans back in the office and matching them with the prior excavation and site plans, area F IX actually seems to lay in an unexcavated part of the churchyard, i.e. its south westernmost corner (Fig 5.26). Even though the position of area F IX is not accurately fixed (see above), it lies too far S of Roussell's trench to ever have been excavated, which is also suggested by the layering in area F IX:

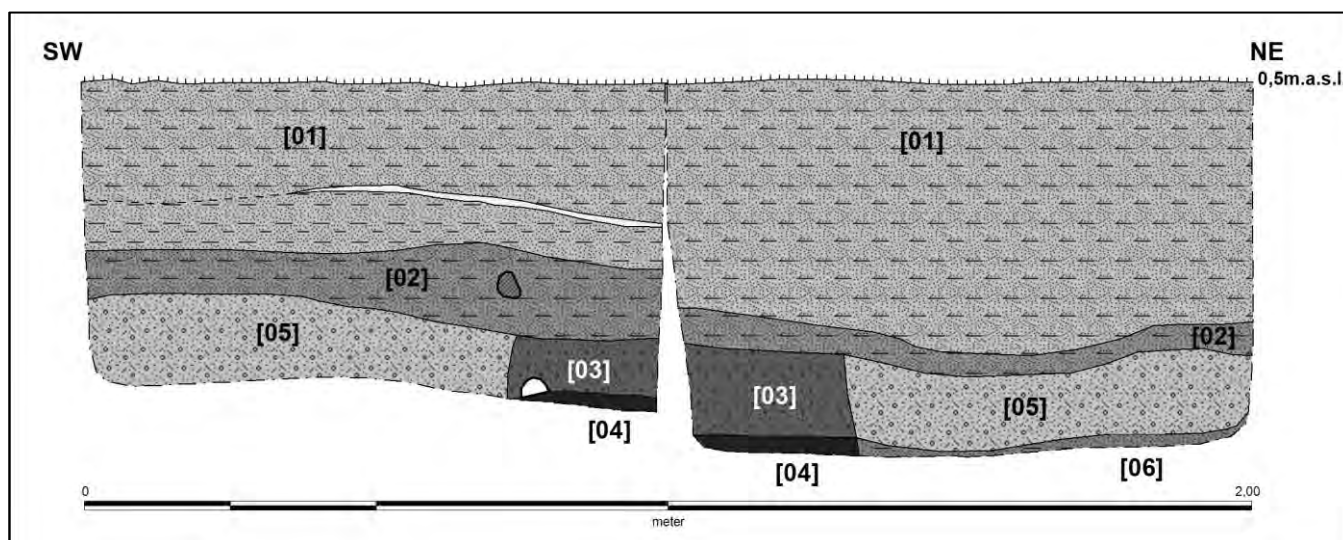


Fig. 5.27 Aligned section drawings of the W section of the first 1x1m F IX area (right) and the E section of the second 1x1m F IX area. The gap between the two drawings is unexcavated, which also accounts for the discrepancy of [02] in the two drawings. For description of the individual units see table 2.

Table 5.2. Soil layers identified during excavation in the F IX area		
Context No.	Description	Interpretation
[01]	Series of thin layers of intermittent turf and silt deposits w. a few specks of charcoal, a few bones, pieces of plastic, woven cloth sandbags, glass, bullets.	Series of recent vegetation horizons and silt floodings, possibly yearly or semi-yearly events.
[02]	Heterogeneous grey brown to light grey silt w. intermittent layers of reddish alluvial fine sand w, few specks of charcoal and some bone, burned and unburned.	Natural alluvial deposit w. cultural inclusions, likely outwash from the nearby midden.
[03]	Heterogeneous greyish brown to silty sand w. darker and lighter spots of clayish silt, some specks of charcoal and bones.	Fill in grave cut.
[04]	Red silty sand w. pieces of charcoal and almost dissolved wood.	Bottom of grave cut with possible dissolved remains of

		<b>coffin (bottom).</b>
<b>[05]</b>	<b>Brownish grey sandy silt w. spots of light grey clayish silt w. many specks of charcoal and a few poorly preserved bone fragments.</b>	<b>Cultural deposit(?)</b>
<b>[06]</b>	<b>Mostly homogenous dark brown almost pure and compact silt with a dew specks of charcoal and some poorly preserved bone.</b>	<b>Top of natural surface with dountrodden material(?)</b>

Evidently, interpreting layers in such a confined excavation area as that of F IX is exceedingly hard and drying out of the soil during excavation made it difficult to distinguish the layering, which however does appear rather clear on the photographs (fig.5.28-29). The cultural inclusions in [01] suggest that this layer has been deposited recently, yet according to the placing of area F IX, apparently not following any excavation (wash in of spoil heap as was first suspected). It could suggest, that depositional conditions have changed; from soil erosion to soil accumulation. The presently relative stability of this part of the churchyard is also indicated by the thin grass vegetation observed prior to excavation (fig.5.16).



**Fig. 5.28** W section of the first 1x1m F IX area. Even though the section has dried out, the grave cut [04] and [05] is fairly visible in the lower left part of the section (*photo: C.K. Madsen 2013*).





**Fig. 5.29** E section of the second 1x1m F IX area. Even though the section has dried out, the grave cut [04] and [05] is clearly visible in the lower left part of the section, as is layer [02] sealing the grave cut (*photo: C.K. Madsen 2013*).

Because [02] sealed the grave cut (fig.5.27, 5.29) this layer(s) must have been deposited after the abandonment of the churchyard. Yet, if the top of [05] would have been the original surface into which the Norse dug their graves, then the interments would only have been 18-11cm deep, which is also highly unlikely, even though Roussell mentions that he found the skeletons only 50cm under the midden (Roussell 1936:16). One suggestion could be that [02] reflects some alluvial deposition after a phase of initial erosion, but deposited before the 1930-32 excavations and therefore without inclusions of woven cloth sand bags, glass etc. The question of the layering can only be justly answered by extending the excavation area.

[03] and [04] is the cut and bottom of a grave that contained two individuals, both lying on their backs facing E:

**Skeleton 1:** A smaller subadult skeleton (no.1) lay on top, apparently partly overlapping another skeleton (no.2) with its right arm and shoulder resting against the side of the grave in such a way that the arm is pushed towards the chest. The skull was facing forward towards its feet, the upper jaw having been compressed into the lower jaw (fig. 5.21). The subadult status of skeleton 1 was determined from the smaller size of its long bones (which both came up without their heads suggesting they were unfused), skull, and its seemingly smaller stature. The lower tibias and fibulas of this individual was removed wall cutting the test pit (fig.5.18), the two femurs and three teeth sampled for aDNA-analysis, the rest of the bones left in the grave.

**Skeleton 2:** A skeleton of an adult individual lay at the bottom, partly overlapped by skeleton 1. The adult status of skeleton 2 was determined from the larger size of its long bones, skull, and its seemingly larger stature. The skull was facing N or left (fig.5.22). The bones of skeleton 2 were poorly preserved, the smaller bones all but butter bone. Butter bone traces of metacarpals and phalanges suggest that its

right hand rested on its pelvis, which was barely exposed and very poorly preserved. The lower right tibia and fibula of this individual was removed wall cutting the test pit (fig.5.18), the left we tried to lift, but it only came out in pieces (x31), the same was the case with the right radius/ulna (x33). The left femur (x32) and 4 teeth (x35) were sampled for aDNA-analysis, the rest of the skeleton left *in situ*.

### 5.2.7 Summary and threat assessment for Kilaarsarfik

The 2013 investigations at Kilaarsarfik/Sandnes proved that there are still unexcavated features along and in front of the erosion front. Thus, we managed to unearth what was most likely the western extent of the churchyard enclosure wall, the extent of which could be fully and more securely determined by extension of the excavation area.

The excavated double-grave shows that there could be more unexcavated Norse interments in the south-westernmost part of the cemetery, i.e. that Kilaarsarfik has significant potential in terms of human aDNA-research, although the bones are somewhat poorly preserved. In future excavations, area F IX should be extended to locate unexcavated burials. At least, the already disturbed double-grave should be completely excavated and the rest of the bones retrieved.

*Threats from erosion:* is scored as 2 for both features and midden. While erosion must be considered at constant threat at Kilaarsarfik, it does presently not seem an extreme threat, and only to the midden deposits and remains of churchyard enclosure wall. According to the georeferencing of old survey plans weighed against a 2012 ATM survey shown fig. 5.11, some 4-7m of coastline have eroded since Bruun's 1903's survey and 2-3m since Roussell's 1932 survey, while there is virtually no difference between the 1984 and 2012 surveys that cannot be ascribed to mapping error or differences mapping the boundary of the erosion front. The excavation of area F IX also suggests any remaining untouched interments seems to be protected by alluvial silt deposits that are perhaps even increasing rather than being eroded (see above). Thus it would seem that the rate of erosion at Kilaarsarfik have stabilized somewhat. However, midden deposits are still being washed out, as clearly demonstrated by the bones lying along the erosion front. With relative sea level rise this erosion and washing out of midden will likely increase and the remaining interments and the churchyard enclosure wall could be next to erode or disintegrate.

*Threats from human impact:* is scored at 1 for features and 2 for midden. Kilaarsarfik is a very popular camping site for hunters, school children, visitors, their activities leaving a lot of traces around the site (waste, various holes, fire places, drying racks etc.). However, these activities are mostly confined to camping areas S of the ruins and are thus not directly disturbing the cultural heritage. The midden seems to be most disturbed by human impact.

*Threats from vegetation increase:* is scored at 2 for both features and midden. Comparing 1903 photographs with the present situation, it is clear that willow scrub vegetation has exploded and is still increasingly invading the remains of relict homefield and the excavated ruins. When the threat from vegetation increase is not scored at 3 it is only because the ruins have been already excavated and because 2012 test pits indicated that preservation and stratigraphy inside the excavated features was already mostly gone. Undoubtedly, the remains of grass vegetated cultural heritage (relict homefield, ruins, and midden) will gradually be claimed by the willow scrub with increase in temperature, although the speed of this process is still uncertain.





**Fig. 5.30** Coring the frozen Sandnes midden for dirt-DNA cores. Method: a small hole is spaded to the depth of the frozen layer, the gas-powered corer thereafter drilling out samples of frozen cores 10cm in diameter. 3 such cores were made in 2013 (sample no.49-51,), see fig.12 (photo: C.K. Madsen 2013).

### 5.3 V54 – Nipaatsq



Fig. 5.31 The low knoll with the main dwelling of Nipaatsq/V54 towards the N (photo: C.K. Madsen 2013).

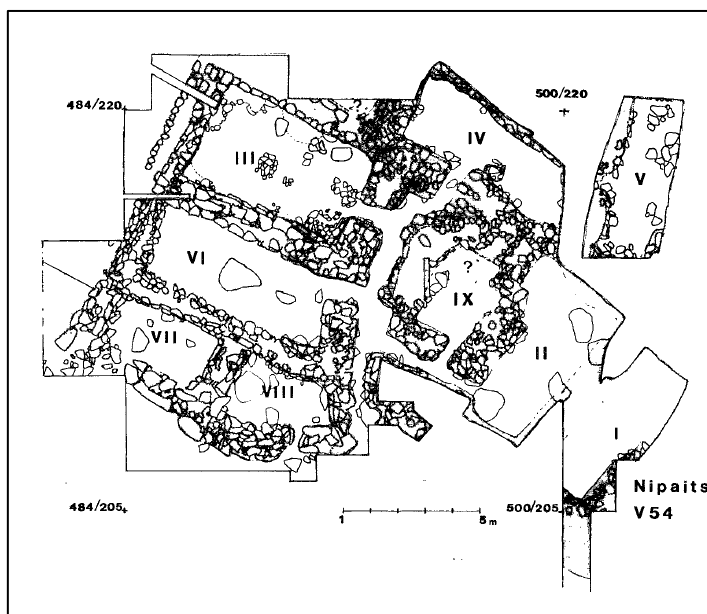


Fig. 5.32 Excavation plan of V54's main dwelling (after Andreasen 1982:fig.2).

**5.3.1 Site Description:** V54 is located on western side of a great glacial outwash plain some 1,5km inland SW from where the waterfall of Naajat Kuuat spills into the river of the same name and meanders north towards the Ameralla fjord branch. The main dwelling lies on a low drained knoll surrounded by grassy wetland and fen (fig.5.31).

**5.3.2 Main investigation aims:** Because the hunters' had sailed us to their camp, we had gained three days which we would have otherwise spend hiking from Kilaarsarfik to GUS. We spend one of these days inspecting V54.



**5.3.3 Prior archaeological investigations:** V54 was test trenched in 1952 (archives of the National Museum of Denmark), revealing excellent preservation. Therefore, the site was selected for the Inuit-Norse project of 1976-77, during which two years parts of the midden and main dwelling complex was excavated (fig.5.32) (Andreasen 1982, Møhl 1982:293p).

#### 5.3.4 Summary and threat assessment for Nipaatsq/V54

The 2013 investigations at Nipaatsq/V54 were limited to a brief inspection of the site. Today, some 36 years after its excavation without backfilling, the main dwelling is still rather well preserved and the excavated rooms and walls so distinct as to make their identification very easy (fig.5.32). Preservation for Nipaatsq features is scored at 2 (preservation during the 1977 excavation was very good and even though it will have deteriorated, some preservation is still expected) and 1 for the midden (which upon the visit seemed very dry and well drained, but did yield good amounts of bone in the 1976-77 excavation).



**Fig. 5.33** The northern limit of the 1977 excavation of V54 (photo: M. Meldgaard 2013).

*Threats from erosion:* is scored as 1 for the features and 0 for midden. Wind erosion and erosion from precipitation is biting at the excavated walls of the ruins (fig.5.33-34), slowly breaking down the turf parts and making the walls slump and, eventually, tumble or collapse. However, presently erosion during 36 years has done fairly little damage.



**Fig. 5.34** eroded part of the northern wall of the dwelling, where the turf is breaking off and stones spilling into the rooms (photo: C.K. Madsen 2013).

*Threats from human impact:* is scored at 0 for both features and midden. The major damage to the site was already done by the archaeologists and very few people ever visit the site.

*Threats from vegetation increase:* is scored at 2 for the features and 1 for the midden. It is clear that the willow scrub is encroaching on the excavated rooms of the Nipaatsq dwelling, some rooms already having been invaded. As excavation of the dwelling was never finished, any evidence of earlier phases and additional material, as well as unexcavated parts of the feature, is moderately threatened by increased scrub cover and root nets. The relict homefield and midden seems less threatened as it still virtually free of scrubs (fig.5.31).



## 5.4 V63 – Naajat Kuuat



Fig. 5.35 View towards the SSW of the slope with ruin group V63. In front, the nicely preserved skemma is seen, whereas the site of the supposed dwelling is circled in red (photo: C.K. Madsen 2013).

**5.4.1 Site Description:** V63 is located just a few hundred meters NNE of where the waterfall of Naajat Kuuat spills into the river of the same name and meanders north towards the Ameralla fjord branch. The ruins – 2-3 in number and 1 of them a beautifully preserved skemma – lie on the gentle scrubby slope E of the river, just some 100-200 meter up (fig.5.35). No homefield can be identified.

**5.4.2 Main investigation aims:** Because we stayed at the hunters camp after they had sailed us to there, we had gained three days which we would have otherwise spend hiking from Kilaarsarfik to GUS and spend some of this time inspecting the V63 and surveying nearby the terrain.

At the suspected main dwelling (red circle fig.5.35) – a grassy and scrub vegetated area with the outline of a few spaced rooms – we cored for frost with a 1cm spear: two transects were cored across the green patches w. outlines of rooms. In the upper transect, stones were hit at a constant depth of c.45cm. In the lower transect, less even soil covered the stones and no permafrost was detected. A few spears were put in the suspected midden even further towards the coast, finding permafrost in one at c.90cm and only after having speared through some more compact and gravelly deposits.

The surveys along the beach and cliffs around the site revealed two new features:

**13\_01 (UTM 22N 544.384,1/7.112.065,7):**

Some 400m's north of the nicely preserved skemma and c.200m up the slope is a vertical cliff face with a boulder field in front. Upon closer inspection, part of this steep cliff face has split clean off from the bedrock, creating a 3-4 wide and c.25m deep crevice between the two (fig.5.36). At the south facing entrance of the crevice, a low foundation – a single row of stones c.30-40cm wide – for a wall has been built on top of naturally deposited boulders, thereby creating a perfectly sheltered compartment, possibly a Norse enclosure. This compartment would likely only have been some c.6m deep, because at that point one has to climb a large boulder to gain access to the innermost c.20m of the crevice, where natural overlies supplies roofing and give it a cave like impression.



**Fig. 5.36** The opening of the crevice with Ruin 13\_01 seen towards the NW. A stone foundation for a wall has been built on top of the boulders blocking the entrance to the crevice (photo: C.K. Madsen 2013).



**13\_02 (UTM 22N 544.327,5/7.112.091,9):** At the edge of the boulder field below the cliff face with new ruin 13\_01 and some 60 distant lies a chambered fox trap (fig.38). The fox trap measures c.100x80cm and is well-preserved. The chamber opens to the E and measures c.15x15x80cm. Lichens suggest that the trap has a considerable age.

**Fig. 5.37** The opening of the chambered fox trap 13\_02 just N of V63 (photo: C.K. Madsen 2013).

### 5.4.3 Summary and threat assessment for Naajat Kuuat/V63

*Preservation:* is scored at 2 for the features, partly because of the well preserved skemma, partly because the dwelling seems covered with Aeolian deposits and could hold considerable preservation. Midden preservation is unknown.



*Threats from erosion:* is scored at 0 for both the features and 0 for midden.

*Threats from human impact:* is scored at 0 for both the features and the midden. The only human impact to the midden seems to be a few small overgrown test pits excavated at some unknown point.

*Threats from vegetation increase:* is scored at 3 for both features and midden. This is because the scrub is increasingly dramatically in the area, which is visible from the photographs fig.5.38-39. Because both the structural features and midden area unexcavated and potentially well-preserved, the root nets of the scrub can cause considerable damage.



**Fig. 5.38** The skemma of V63 in 1993. The willow scrub stands high outside the ruin, but low in the inside (photo: J. Arneborg 1993).



**Fig. 5.39** The skemma of V63 in 2013. The willow scrub in the inside of the ruin is now standing almost 2m high and has spread around the ruin as well (photo: M. Meldgaard 2013).

## 5.5

## THE FARM BENEATH THE SAND

'PEOPLE OF ALL TIMES' - FIELD REPORT

## 5.5 The Farm beneath the Sand

**5.5.1 Site Description:** The Farm beneath the Sand (GUS) is located on the eastern side of a great glacial outwash plain some 3km inland SE from where the waterfall of Naajat Kuuat spills into the river of the same name and meanders north towards the Ameralla fjord branch (fig.5.2, fig.5.40, 5.42-43). Some 2,6km NW across the melt water river lies Nipaatoq/V54. After the abandonment of the farmstead GUS was covered by up to 1,5m of alluvial and aeolian sands, wherefore the ruins are completely invisible on the surface of the terrain and traces are only found along the erosion front, where the melt water river has been eating away the deposits. Today, GUS lays by the edge a small plain of scrub and wet meadow that would have looked significantly different in Norse times.



Fig. 5.40 View of the valley and glacial outwash plain with the ruins of GUS seen towards the SW (photo: C.K. Madsen 2013).

**5.5.2 Main investigation aims:** The aim of the 2013 visit to GUS was to establish the condition of the site, i.e. what had happened since the 1991-1996 excavation (see below), what was left of the ruins, what was the state of preservation, and an assessment of threats to any remaining cultural heritage.

**5.5.3 Prior archaeological investigations:** Because erosion threat, the main dwelling of GUS was almost completely excavated in the years 1991-1996 (e.g., Arneborg and Berglund 1993, Berglund 1998, 2001, Enghoff 2003). The farmstead was frozen and preservation exceptional; the site therefore still expected to have considerable research potential.

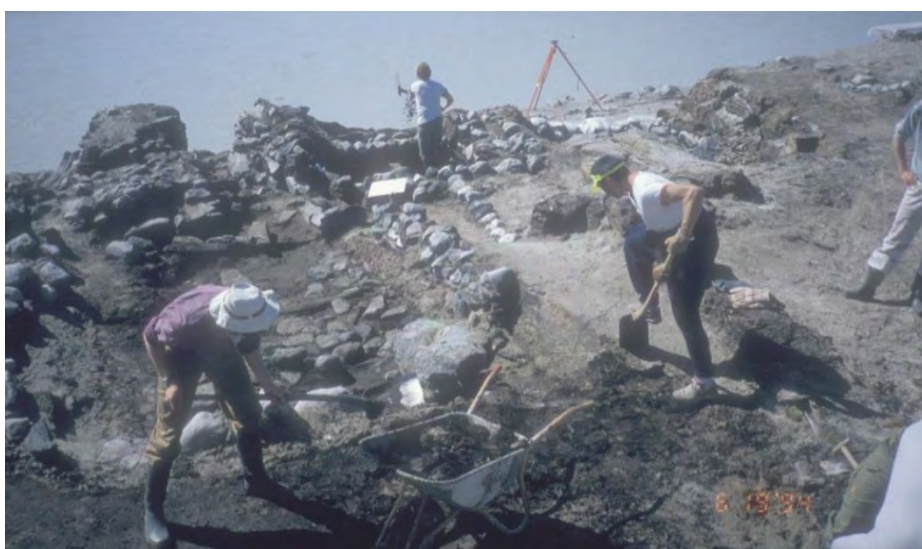


Fig. 5.41 GUS during 1994 excavation. Note the black layer in the front of the photo (photo: J. Arneborg 1994).





**Fig. 5.42** View of GUS and the melt-water river 1993 (*photo: J. Arneborg 1993*).

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**Fig. 5.43** View of GUS and the melt-water river 2013 (*photo: C.K. Madsen 2013*).



**Fig. 5.44** Close up view of the stretch of river bank where the ruins of GUS were excavated seen towards the W. The stones lying in the river just off the bank are likely building remains from the last phase of the excavation (*photo: C.K. Madsen 2013*).



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**5.5.4 2013 GUS Visual Inspection**

The assessment of the preservation of GUS was primarily based on visual surface inspection: fig.43-44 compares the situation in 1993 and 2013, respectively. Comparing them, it is evident that the river has cut into the river bank, where the excavated dwellings and ruins of GUS were once located (fig.5.44-46). Thus, most of the structural features left exposed at the end of the 1996 excavation seem to have been removed. The river has also deepened the bend or curve in the river just in front (east) of GUS. However, the erosion is not dramatic and as there are no ruins in that area. Generally, the vegetation on the slope of the riverbank where the ruins were located suggests that the erosion has largely stabilized (fig.5.45).



**Fig. 5.45** View of the erosion into the river bank where the ruins were located. The vegetation on the slope of the river bank suggests that erosion has largely stabilized (*photo: C.K. Madsen 2013*).

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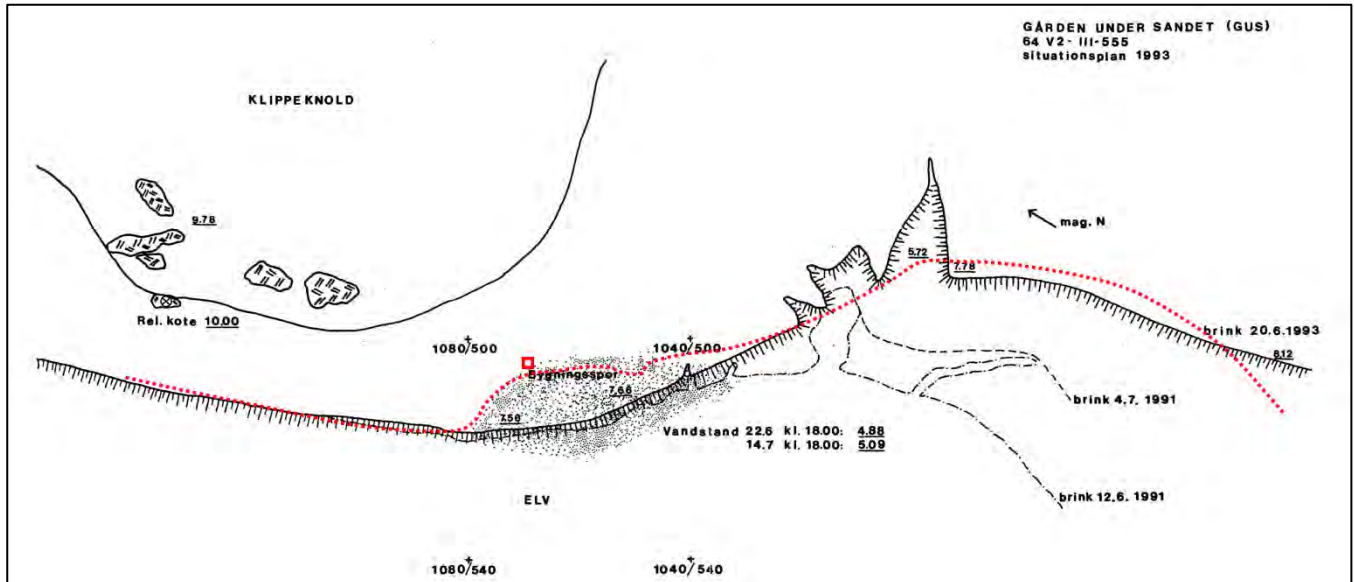


Fig. 5.46 1993 survey plan of the GUS site. Included is the erosion of the river bank during the previous years. The dotted red line shows the estimated extent of the erosion outlined from a GoogleEarth 2010 satellite image, as well as the approximate location of the test pit excavated 2013 at UTM 22 W 545.126,2m/E 7.108.077,3m (plan: courtesy of the National Museum of Denmark).

### 5.5.5 2013 Excavation at GUS

In order to assess the state of preservation in the cultural layers, as well as to make sure that some cultural deposits still remained under the c.1.5m thick post-abandonment alluvial and aeolian deposits, we excavated a test pit of 1x1m in the sloping part of the river bank (fig.5.46). The pit was excavated with a spade and trowel, trying as far as possibly to separate layers as we excavated. All finds were collected (x1-3), but the soil was not sieved. The upper layers (fig.5.49., tab.3 no. 1-14) consisted of alternating aeolian and alluvial deposits with no cultural inclusions and virtually no stones. Under layer no. 14 (fig.5.49) we came – c.75m under the present surface – upon dark brown to black layers with small pieces of rather well-preserved burned and unburned bone, lots of pieces of charcoal, turf lumps, as well as unburned wood twigs and fragments.



Fig. 5.47 Opening the test pit in the sloping part of the riverbank at GUS. A handheld GPS was used to establish the position of the test pit, but the accuracy is poor (photo: C.K. Madsen 2013).



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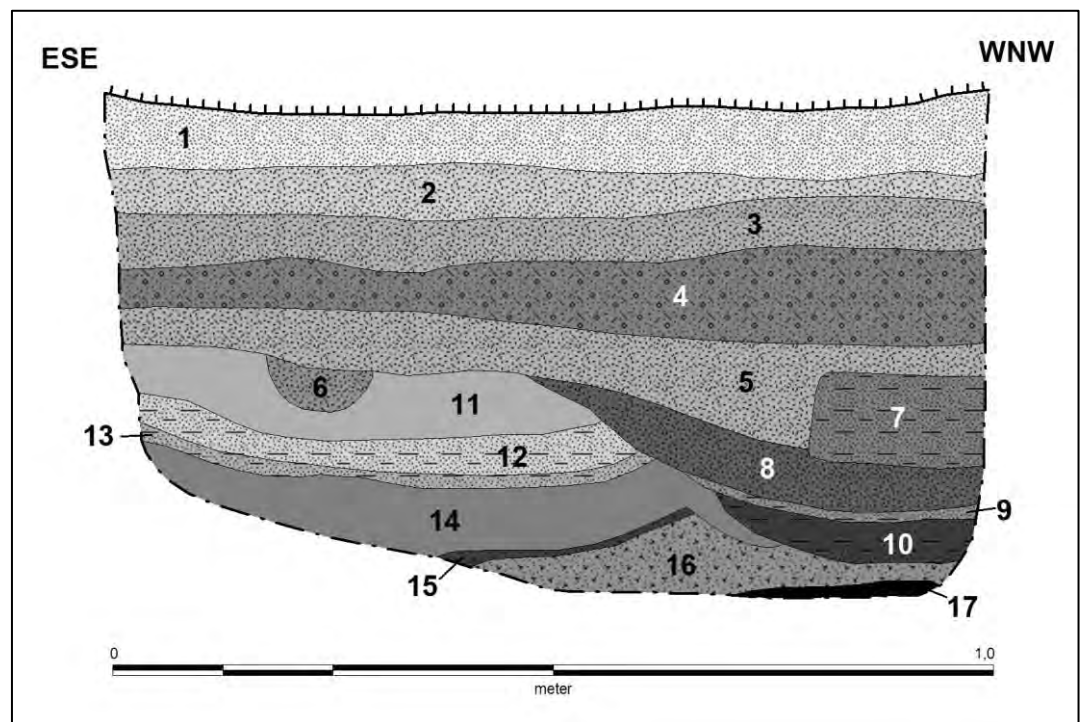
## 'PEOPLE OF ALL TIMES' - FIELD REPORT



Fig. 5.48 The cleaned of surfaces of layer 16-17. Turf lumps which could be part of wall collapse are clearly visible. The black surface displays notable similarity to the black layer in the front of fig.42 during the 1994 excavation (photo: C.K.

Having established that there was intact cultural deposits, possible building remains, fairly good preservation, and not wanting to disturb these cultural layers any further with the means and time available to us, we decided to stop excavating at the top of layer no.16-17 and cleaned these for photographs (fig.5.48). DNA-samples (no.1-5) were then sampled from the top of layer 17. Next we used the metal spear to test for frost: in the southern half of the test pit we found frost c. 40cm below the excavated and cleaned off surface, in the northern half c. 100cm under the surface. We finally drew the section (fig.5.49), measured the corners of the test pit with a handheld GPS, and backfilled the pit.

Fig. 5.49 Section drawing of the S profile in the test pit at GUS. For description of the individual units see table 3.



Interpreting the layers of the GUS 2013 test pit (fig. 5.49), the alternating series of alluvial and aeolian deposits with no cultural inclusions and an almost complete lack of stones clearly suggest that the deposits are from after the 1991-1996 excavations, i.e. they are alternating layers of soils washed down from the 1996 excavation edge and wind-blown silt, respectively. The lower layers (fig.5.48-49, no.16-17) were clearly undisturbed cultural deposits, possible the surface left after the 1996 excavation although this can only be clarified by opening a larger area. Thus, there are still undisturbed layers with good preservation at GUS, although we can only guess at their extent or depth.

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## THE FARM BENEATH THE SAND

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Table 5.3. Soil layers identified at GUS		
Layer No.	Description	Interpretation
1	Light grey fine sand w. no cultural inclusions	Aeolian deposit
2	Light grey slightly coarse sand w. no cultural inclusions	Alluvial deposit
3	Light brownish grey coarse sand, homogenous and w. no cultural inclusions	Alluvial deposit
4	Dark brown slightly sandy silt spotted with light grey silt w. no cultural inclusions	Alluvial deposit
5	Light brownish grey silty sand w. no cultural inclusions	Alluvial deposit
6	Pocket of 5, only slightly darker in color w. no cultural inclusions	Disturbance?
7	Series of layers, dark brown to yellow brown slightly silty sand w. no cultural inclusions	Slumped/slid lump of turf/vegetation surface?
8	Homogenous light grey slightly silty sand w. no cultural inclusions	Aeolian deposit
9	Homogenous dark brown silty sand w. no cultural inclusions	Vegetation horizon(?)
10	Layers of dark brown to light grey fine sand w. no cultural inclusions	Aeolian deposits
11	Yellowish grey very compact clayish silt w. no cultural inclusions	Aeolian deposit
12	Series of fine layers of dark brown to yellowish brown silty fine sand/sandy silt w. no cultural inclusions	Aeolian/alluvial deposits
13	Homogenous dark brown sandy silt w. no cultural inclusions	Vegetation horizon
14	Homogenous brownish yellow slightly compact sandy silt w. no cultural inclusions	Aeolian deposit
15	Black sandy silt (smearing and organic) w. a few pieces of well-preserved bone, but with little other cultural material	Washed out cultural deposit? [01]
16	Layer of light brown to dark brown slightly sandy silt w. some specks of charcoal and a few pieces of bone and unburned wood	Cultural layer (decomposed turf?)
17	Dark brown sandy silt w, many small twigs, bark, pieces and specks of charcoal and a few well-preserved bone	Cultural layer (floor layer?) [02]

### 5.5.6 Summary and threat assessment for GUS

The 2013 inspection of and test excavation at GUS has shown that there are still well-preserved cultural remains left at the site, although nothing can be said of their extent or depth. The research potential of GUS is still significant, for instance through follow-up excavations. Site threats can be summarized accordingly:

*Preservation:* is tentatively scored at 3 for the features, seeing that there are at least some undisturbed cultural (non-midden) layers with well-preserved organic material. The midden was removed by erosion prior to the archaeological investigations.

*Threats from erosion:* is scored at 2 for the features (midden is absent). Although the river bank at the moment appears rather stable and the remaining deposits thus well protected under a thick layer of natural deposits, any change in the course of the melt water river – which is still cutting into the bay just E of the site – could result in significant erosion and the removal of any remaining cultural deposits. The site should be monitored on a regular basis.

*Threats from human impact:* is scored at 0 for the features as there are few visitors to the area.

*Threats from vegetation increase:* is scored at 0 as there is no evidence of any serious vegetation increase and the cultural deposits lie protected under c. 1.5m of natural deposits.

## 5.6 Conclusion

The 2013 ATM Norse field season was carried out Aug.16.-24. and included preservation/threat assessment at 4 Norse heritage sites (V51, V54, V63, GUS). Using a new system of ranking and scoring preservation/threats, vegetation increase was observed to be the main threat, whereas erosion threats are limited and the threats from human impact (tourism, farming, industry etc.) almost non-existent. V51/Sandnes/Kilaarsarfik was found to be the site with highest preservation and research potential, and at same time the most threatened site.

Test excavation was carried out at two sites: V51 and GUS. These excavations produced 15 and 3 finds numbers, as well as 6 and 5 aDNA-samples respectively. At V51, an intact Norse double-grave was partially excavated and aDNA-sampled; in another test trench, a small stretch of churchyard enclosure wall was found and allows for a delineation of the western extent of the church yard, which had previously only been indirectly established. Inspection at GUS showed that most of the area exposed during 1991-1996 excavations had eroded, but that the erosion have since largely stabilized. In a test pit in the bank of the melt water river undisturbed cultural layers were found beneath overlying natural deposits, showing that the site still has research potential, although the extent and depth of the cultural remains is unresolved.

The authors wishes to heartily thank all the participants in the field work, the National Museum and Archives of Greenland, and the Petersen family of Nuuk, who made the inspection of GUS and Nipaatsoq possible and enjoyable!



## 5.7 Appendices

### Appendix 5.1- Site Preservation/Threat Assessment and Scoring

During the 2013 field work, it was attempted to implement a more formal preservation/threat assessment, which had been discussed and agreed upon prior to going into the field. This threat assessment was to include observance of threats from: A) erosion and B) human impact on both structural features and middens. Threats were to be ranked accordingly: A) not threatened, B) slightly threatened, C) threatened, and D) very threatened. An assessment of the preservation in middens was to be ranked as following: A) unknown, B) no preservation, C) some preservation, and D) good preservation. Also, it was to be mentioned if there was (perma-)frost in midden deposits.

While these directions provided a valuable guideline in the 2013 preservation/threat assessment, it also often proved somewhat difficult to rank preservation/threats, and the pre-agreed listing was somewhat incomplete in relation to features of the Norse cultural landscapes. Such deficits were noted during field work. During post-ex, the preservation/threat assessment was further formalized by converting ranks into scores, meant to summarize site conditions in a single and easily interpretable value, while at the same time being practicable in the field. Tab.5.4 describes the characteristics of the individual scores in relation to heritage features, i.e. structural features and middens. While no single description may apply specifically to a given site, the descriptions are meant to provide easy-to-identify characteristics, i.e. site features that can be identified during brief surveys with no excavation. Added to the threat assessment are also threats from vegetation increase, which has proved to be one of the main threats in the inner fjord regions.

In the method proposed here, the practical scoring of individual site preservation/threats is carried out in a straightforward manner: first, it is decided which description category in tab.4 fits best the observed and interpreted situation at a site. The 0-3 score level of preservation/threat can be read of the leftmost column in tab.4. Scores can then be applied to registration sheets and, during post-ex., and applied to tables (e.g. tab.1) within the different preservation/threat categories. In multiple site cases, such a table allows a quick overview of which threats are the most prevailing, as for instance the aggregated threat value in tab.1, which suggests that vegetation increase is the worst threat to the Norse sites visited in 2013. Finally, the scores can be summarized in a preservation/threats index (P/T-index, tab.1 rightmost column), which multiplies the preservation score with the threats scores. This produces a single value which simultaneously expresses the state of preservation at the site and the threats to this preservation. Thus, a high P/T-index number is a site with excellent preservation and a high degree of threat from various factors, i.e. a site that should likely be targeted in terms of heritage management and investigation. Low P/T-index values can signify both sites with little preservation and medium threats, or sites with medium preservation and few threats, in any case sites that are not likely to be highly prioritized in a larger heritage management program. This system of ranking and scoring preservation/threats at heritage sites is tentative and possibly needs adjustment, for instance in relation to other threats and specifics of preservation. However, a system such as, or similar to, that proposed above works well for several evident reasons: foremost, it provides a transparent and easy to employ in the field scoring system for assessing a larger number of heritage sites over a short time. Second, it provides a data uniformity that enables inter-site preservation/threat comparisons. Third, the one value numerical P/T-index is easy to feed in GIS-models of heritage management.

Table 5.4 – Site Preservation/Threats Scoring Categories

Level descrip .	Preservation:	Erosion threat	Human Impact <sup>1</sup>	Vegetation
Level 0	Heritage site removed, destroyed, collapsed, or dilapidated to such an extent that outlines of structural features/midden are not or barely discernible. No preservation of organic material.	No threat (only natural wear and tear)	No threat	No threat
Level 1	Heritage site present, but eroded, collapsed, disturbed, or dilapidated to such an extent that only rough outlines of structural features/midden are just discernible. No or very little preservation of organic material.	Low threat: Structural features/ midden only lightly or sporadically threatened by ongoing erosion.	Low threat: Structural features/ midden only slightly threatened by human activity (e.g. trails and passage, grazing etc.)	Low threat: Structural features/ midden only slightly threatened by low increase in vegetation cover
Level 2	Heritage site distinct, although somewhat eroded, collapsed, or dilapidated. Some details (rooms, walls, platforms, cooking niches etc.) of structural features can be identified/extend of midden can be established. Some preservation of organic material in either features or midden.	Medium threat: Structural features/ midden threatened by extended and slow, but constantly ongoing erosion, or by rare extreme erosion events.	Medium threat: Structural features/ midden somewhat threatened by human activity (e.g. trampling, extraction, dumping of waste etc.).	Medium threat: Structural features/ midden somewhat threatened by increase in vegetation cover or by slow invasion of scrub species.
Level 3	Heritage site very distinct and only slightly eroded, collapsed, or dilapidated. Most details (rooms, walls, platforms, cooking niches etc.) of structural features can be identified/extend of midden can be certainly established. Excellent preservation of organic material in either features or midden.	High threat: Structural features/ midden threatened by extensive and constantly ongoing accelerated erosion, or by frequent extreme erosion events.	High threat: Structural features/ midden highly threatened by human activity (e.g. farming, plowing, building, transport, industry, dumping).	High threat: Structural features/ midden highly threatened by both marked increase in vegetation cover and rapid invasion of new scrub species.

<sup>1</sup> Refers only to areas within the 20m protection limit designated by Greenlandic heritage legislation.

## Appendix 5.2a – Finds list V51, 2013

X No.*	Area	Context	Mat	Obj	Obj_No	Ini.	Date	Photo
25	F VIII	1	Bone	Animal bones	33	CKM	16-08-2013	2774
26	F IX	5	Bone	Human bones: tibia/fibula frags., skeleton 1	14	CKM	16-08-2013	2775
28	F IX	5	Bone	Human bone: right femur, skeleton 1	1	CKM	17-08-2013	
29	F IX	5	Bone	Human bone: left femur, skeleton 2	1	CKM	17-08-2013	2776
30	F IX	5	Bone	Human bone:left femur frags., skeleton 2	8	CKM	17-08-2013	
31	F IX	5	Bone	Human bone: left tibia/fibula frags., skeleton 2	9	CKM	17-08-2013	
32	F IX	5	Bone	Human bones: left femur frags., skeleton 1	6	CKM	17-08-2013	
33	F IX	5	Bone	Human bone: right ulna frag.?, skeleton 1	1	CKM	17-08-2013	
34	F IX	2	Steatite	Frag.	1	CKM	17-08-2013	
35	F IX	5	Tooth /Tusk	Human teeth, mandibula, skeleton 2	4	CKM	18-08-2013	
36	F IX	5	Tooth /Tusk	Human teeth, mandibula, skeleton 1	3	CKM	18-08-2013	
37	F IX	1	Bone	Animal bones	36	CKM	18-08-2013	2777
38	F IX	1	Tooth /Tusk	Animal teeth	2	CKM	27-08-2013	

\* Finds numbering continues 2012 finds' list.

## Appendix 5.2b – V51 samples list, 2013

Sample no.*	Area	Context	Material	Sample type	Sample quantity	Ini.	Date
49	Midden	-	Soil	dirt-DNA	10l	MA	18-08-2013
50	Midden	-	Soil	dirt-DNA	10l	MA	18-08-2013
51	Midden	-	Soil	dirt-DNA	10l	MA	18-08-2013
52	-	-	Soil	Null-sample	20ml	MA	24-08-2013
53	-	-	Soil	Null-sample	20ml	MA	24-08-2013
54	B	5	Soil	dirt-DNA from pelvic region skeleton 2	10ml	MA	17-08-2013

\* Sample numbering continues 2012 samples' list.

**Appendix 5.3a – GUS finds list, 2013**

X No	Area	Context	Material	Obj	Obj_No	Ini.	Date	Photo
1	A	16	Bone	Animal	7	CKM	20-08-2013	
2	A	17	Charcoal	Charcoal pieces	5	CKM	27-08-2013	
3	A	17	Wood	Unburned twigs	3	CKM	27-08-2013	

**Appendix 5.3b – GUS samples list, 2013**

Sample no.	Area	Context	Material	Sample type	Sample quantity	Ini.	Date
1	A	17	Soil	aDNA	20ml	MA	20-08-2013
2	A	17	Soil	aDNA	20ml	MA	20-08-2013
3	A	17	Soil	aDNA	20ml	MA	20-08-2013
4	A	-	Soil	Null-sample	20ml	MA	20-08-2013
5	A	-	Soil	Null-sample	20ml	MA	20-08-2013



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## 6.1

## INUIT SITES SURVEY

'PEOPLE OF ALL TIMES' - 2013 INTERIM FIELD REPORT

## 6.1 Introduction

The People of All Times field season of 2013 included continuation of the 2012 survey of archaeological sites in the Qeqertarsuatsiaat area. 13 sites were visited. Of these sites only Kapigiviip Tasersua (in previous literature called Naajaat) have been visited by an archaeologist, when Jørgen Meldgaard in 1952 visited the site (Field-diary, by Jørgen Meldgaard, 1952). At 11 of the sites the archeological structures were mapped, investigated and threats were assessed.



**Fig. 1.** Map of sites visited by the Inuit team in 2013 field season. The red dots indicate sites that were mapped and investigated for threats. The black dots were sites where no archeological structures were found.

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## 6.1.1 Summary of Results:

The assessment results are presented in fig. 6.x (see Table 5.4 in chapter 5 for a more detailed description of the evaluation method). As no excavations, except from rescuing some pieces of skin and a whalebone artifact that were exposed on the beach below the midden at Itersarmiut A, were undertaken at the 2013 survey. For that reason the P/T index is less comparable to sites excavated by the Norse team or Inuit core sites from 2012. The most important threat across sites was erosion by the sea. Most evident are the threat from sea erosion at the sites of Piipimiit, Qassimiut, Inussuit and Itersarmiut. All these sites are situated on skerries at the westernmost coastal areas. Vegetation at the Inuit sites seems to help preserve the archaeological structures. Threats to middens are most evident at Itersarmiut and Inussuit. Middens at the other sites are already lost.

Site		Preservation	Erosion threat	Human impact	Vegetation	Permafrozen	P/T index
63V2-III-21	Naajaat Nuuat	3	0	1	0	-	(3/1) 3
63V2-III-3	Itersarmiut A	3	3 <sup>1</sup>	0	0	-	(3/3) 9
63V2-III-3	Itersarmiut B	2	0	0	0	-	(2/0) 0
63V2-III-2	Inussuit	2	3	0	0	-	(2/3) 6
63V2-III-11	Akunnaat Graveyard (A) Structures	2	0	1	0	No	(2/1) 2
63V2-III-11	Akunnaat main settlement (B)	3	1 <sup>2</sup>	1	0	-	(3/2) 6
63V2-III-11	Akunnaat North (C)	3	2	0	0	-	(3/2) 6
62V1-IV-15	Piipimiit	1 <sup>3</sup>	3	0	0	-	(1/3) 3
62V1-IV-16	Qassimiut	2 <sup>3</sup>	3	0	0	-	(2/3) 6
62V1-IV-18	Natsersuarmit	3 <sup>3</sup>	1	0	0	-	(3/1) 3
63V2-III-?	Qasertoq	3 <sup>3</sup>	1	0	0	-	(3/1) 3
62V1-IV-13	Aasiviit	2 <sup>3</sup>	2	0	0	-	(2/2) 4
62V1-IV-5	Kangillermiut	2 <sup>3</sup>	2	0	0	-	(2/2) 4
62V1-IV-28	Miagguup Alanngua	2	1	0	0	-	(2/1) 2
Accumulated threat			22	3	0	-	-

0 = none/no, 1 = low/little, 2 = medium/some, 3 = high/excellent, - = lacking

<sup>1</sup> The most structures are not threatened only the midden and three dwelling structures by the beach.

<sup>2</sup> Only the midden is eroding; <sup>3</sup> Midden completely eroded prior to observation

**Fig. 1 Threat assessment of Inuit sites visited in 2013**



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## 6.1.2 Inuit Team

PKK: Pauline Kleinschmidt Knudsen, M.A. archaeologist, Greenland National Museum

PTO: Peter Andreas Toft, PhD. Archaeologist, National Museum of Denmark

PØ: Pernille Ødegaard, BA. – student, Ilisimatusarfik – University of Greenland

KM: Kirstine Møller, MA. –student, University of Copenhagen

HHB: Hans Henrik Berthelsen, local guide

JJ: Jonathan Jakobsen, local guide



**Fig. 2 Inuit team 2013 from left: Kirstine Møller, Pauline K. Knudsen, Pernille Ødegaard; Hans Henrik Berthelsen and Peter Toft. Photo: Evnike Johnsen, 2013.**



**Fig. 3 Jonathan Jakobsen  
Photo: Peter Toft, 2013**

## 6.1.3 Selection of Sites

Information gathered through the field season 2012, mainly from local residents of Qeqertarsuatsiaat revealed that the area from Kangerluarsussuaq to Allumersat the density of archaeological sites is considerable. That made the Inuit team realize that it would be a very time consuming project to map all sites from one end to the other. For that reason the team had to make a selection of sites to map during the 14 days available for doing fieldwork. During the 2012 season it was already decided that the team had to map and make investigations at Akunnaat – one of the key sites for the Moravian mission in Greenland. Additionally the sites of Panerfaarserfia and the Norse site by Kapigiviip Tasersua were prioritized. After some days consideration and input from the local residents it was decided to map one or two sites north of Qeqertarsuatsiaat, some sites on the

## 6.1

## INUIT SITES SURVEY

## 'PEOPLE OF ALL TIMES' - 2013 INTERIM FIELD REPORT

skerries SW of Qeqertarsuatsiaq and finally the site of Kangillermiut just North of the fjord of Allumersat. The sites of Qasertoq, Miagguup Alanngua and Aasiviit were mapped as the opportunity to map the sites arose during the fieldwork. The reasoning for the selection was to get a geographically representation of sites in the area.

### 6.1.4 Field Diary

#### Inuit Team Summary Field Diary 2013:

**Aug. 2:** At 15.00 a meeting was held about the fieldwork, logistics and how to evaluate preservation conditions and threats of cultural heritage sites.

Weather: Sunny and a clear sky.

**Aug. 3-4:** PTO, CKM and KM held a short meeting on the Kapigiviip Tasersua (Naajaat) site.

Weather: Foggy in the morning and sunny the rest of the day.

**Aug. 5:** Packing of field equipment and purchasing of supplies by both teams. At 15.00 a short meeting on how to evaluate preservation conditions and threats of cultural heritage sites on this years field work.

Weather: Foggy in the morning, sunny in the afternoon and overcast, windy and chilly in the afternoon.

**Aug. 6:** Packing and charging of electronic equipment. The Inuit team departed for Qeqertarsuatsiaat by the ship *Sarfaq Ittuk* at 13.00. Arrived Qeqertarsuatsiaat at 21.00

Weather: Foggy in the morning and evening, otherwise sunny with a slight breeze.

**Aug. 7:** Pick up of field equipment at 9.00. Discovered that the satellite telephone was not functioning. Assembly of rubber dingy and packing of field equipment completed at 14.30. The team met up with local boatman and hunter Hans Henrik Berthelsen (HHB), who acted as a guide and help on most of the field campaign. Arranged a field trip to Panerfaarserfia, Naajaat Nuuat and Kapigiviip Tasersua with local resident Jonathan Jakobsen the following day. Departed for base camp location at Akunnaat (Lichtenfels) on the west coast of Qeqertarsuatsiaq at 15.30. Arrived at 16.00 and established base camp.

Weather: Morning was foggy later it was cloudy and windy until noon. The afternoon was sunny.



**Fig. 4** Assembling of zodiac. Photo: Pauline Knudsen, 2013.

**Aug. 8:** Departed from Akunnaat towards Qeqertarsuatsiaat at 8.30. Sailing accident. PØ had a small hand injury. Arrived at Qeqertarsuatsiaat at 9.20. Reassembled the rubber dingy and meet up with Jonathan Jakobsen. Departed for Panerfaarserfia at 11.15 and continued to Naajaat Nuuat (63V2-III-21) where an oval house, a grave and tent rings were documented. Departed for the Norse site by the shore of Kapigiviip Tasersua, east of Naajaat Nuuat of at 13.00.

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Probably due to increased vegetation of willow in the area close to the lake Kapigiviip Tasersua. The Norse ruins described by Daniel Bruun in 1903 and Jørgen Meldgaard in 1952 could not be located. Departed for Qeqertarsuatsiaat at 15.45 but continuous engine trouble delayed us until 16.30. Where towed back to Qeqertarsuatsiaat by Jonathan Jakobsen. Had dinner at Jonathan Jakobsen's house, while HHB repaired the engine. Departed for Akunnaat at 21.15. Further engine trouble 10 minutes later and were towed to Akunnaat by HHB. Arrived at 22.15. HHB towed the rubber dingy back to Qeqertarsuatsiaat for repair.

Weather: Cloudy and showers until noon and sunny in the afternoon.

**Aug. 9:** HHB arrived at Akunnaat with a fully repaired rubber dingy. The new engine purchased for the 2013 fieldwork had been delivered with the wrong propeller type! PTO went to Qeqertarsuatsiaat for gas flasks due to a dysfunctional fuel burner and returned to Akunnaat at 10.30, without being towed! Surveyed in Akunnaat (63V2-III-11) for a proper place to set up GPS-base and of the local cemetery east of the settlement. The cemetery was estimated to have 175-275 graves. A short meeting about the documentation level for the cemetery was held at 15.00. Plans for returning to the cemetery was obstructed by heavy rain 16.45. Dinner and following shooting exercise with rifle until 21.00.

Weather: Shifting: sunny, cloudy rainy with wind in the afternoon and evening.

**Aug. 10:** Hiking up the mountain behind the Akunnaat settlement at 9.00 to establish GPS base. Calibration of height of hand held GPS's at the cemetery. The youngest part of the cemetery was mapped. The borders of the cemetery were measured with precision GPS. Worked until 18.30.

Weather: Clear and sunny with no wind.

**Aug. 11:** Akunnaat: Continued documentation of the youngest part of the cemetery and beyond its borders. Worked until 18.00.

Weather: Cloudy until 11.00 followed by rain.



Fig. 5 Mapping graves at the churchyard in Akunnaat. Photo: Peter Toft, 2013

**Aug. 12:** Akunnaat: Continued registration of the cemetery with a changed, less detailed, documentation level. A fox visited the cemetery. Packed for survey of the west coast of



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Qeqertarsuatsiaq and departed Akunnaat at 15.00. Mapped a couple of Cairns and a fox trap. Further two possible sites with Lyme grass, one with possible structures and one with a midden were observed on the SW tip of the island. Continued to citizens hearing on the ruby concession by *True North Gems* at Qeqertarsuatsiaat. Returned to Akunnaat at 22.30.

Weather: Cloudy before noon and rainy in the afternoon, with a mild breeze from the North.

**Aug. 13:** Departed Akunnaat at 9.30 to the skerries NW of Qeqertarsuatsiaq accompanied by HHB. Surveyed Inussuit (63V2-III-2); mapped two communal houses, one included an eroded whalebone. Further more surveyed Itersarmiut (63V2-III-3); eight houses and some graves. Departure at 14.00 for the skerry islands SW of Qeqertarsuatsiaq. Surveyed the sites Qassimiut (62V1-IV-16) and Natersuariut (62V1-IV-18) and (qeq 19 and 20). Arrival at Akunnaat at 17.15

Weather: Strong winds cloudy and showers in the afternoon.

**Aug. 14:** Departed Akunnaat at 9.30 to return to the skerry islands SW of Qeqertarsuatsiaq accompanied by HHB. Documented of structures at Piipimiit (62V1-IV-15), Qassimiut (62V1-IV-16) and Natersuariut (62V1-IV-18). One house structure observed on a small island SW of Natersuariut. Departed from Natersuariut at 19.30. Arrived Akunnaat at 20.30.

Weather: Cloudy and windy, clear and sunny in the evening.

**Aug. 15:** Departure for Inussuit (63V2-III-2) and Itersarmiut (63V2-III-3) at 9.30 accompanied by HHB. Establishment of base for precision GPS on an island between the two sites at 10.30.

Documentation at Itersarmiut of several fox traps, a grave and a meat cache in the backcountry of the site. Precision GPS malfunctioned regardless of several attempts to reboot. Departed at 19.30 and arrived Akunnaat at sunset by 21.30.

Weather: Slightly cloudy and windy, sunny in the evening.

**Aug. 16:** Batteries for the GPS were charged and the precision GPS was reinstalled and calibrated in the morning at Akunnaat. Departed for Qeqertarsuatsiaat at 11.00 where the team was invited to “kaffemik” (coffee party) by the Berglund family. Shopped fresh supplies. Arrived at Akunnaat again at 14.00. KM continued the documentation of the local cemetery, while PØ, PKK and PTO measured structures in the eastern part of the Akunnaat settlement with precision GPS. Worked until 18.00. Visited by HHB and his family in the evening.

Weather: Sunny and windy. Heavy rain started at 22.00.

**Aug. 17:** Documentation of the cemetery at Akunnaat until noon continued by PØ and KM in the afternoon. A total of 258 graves documented so far. PKK and PTO proceeded with measuring structures at the western part of the Akunnaat settlement with precision GPS.

Weather: Sunny with a strong wind from the North. The evening was chilly with continuing wind.

**Aug. 18:** Departure for Kangerluarsussuaq at 9.15 accompanied by HHB. Established precision GPS base between Inussuit and Itersarmiut en route. Arrived Kangerluarsussuaq at 11.30. Photo documentation of the eroded midden front investigated in 2012. Very little erosion seems to have taken place during the 1-year period. Further most surface finds in the settlement area remained in position. Jørgen Hollesen, Ann Lennert and Tupaarnaq arrived at 16.30. JH secured data from the tiny tags installed in the midden in 2012. Departed for the GPS base at 18.30. Measuring structures at Itersarmiut until 20.00. Retrieved eroded skin and an artifact of whalebone. Continued to Inussuit for measuring structures until 22.00. Returned to Akunnaat by nightfall 23.30.



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Weather: sunny and warm without wind. The evening was chilly.



Fig. 6 Setting up the DGPS base station. Photo: Pauline Knudsen



Fig. 7 Transportation between sites was undertaken by means of a zodiac. Photo: Pernille Ødegaard, 2013.

**Aug. 21:** PKK recalibrated the GPS while PTO continued documenting the cemetery. Departed for the nearby aggregation site for reindeer hunting, which we were informed of by HHB. Arrived 30

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min. later and found and documented several dwelling structures, graves and meat drying structures and a play area\*. The location is probably connected to the place name Iterlaa (62V1-IV-28), which must be placed to northerly on the map. Returned at Kangillermiut for lunch at 13.30, picking-up the GPS station and finishing mapping of the cemetery. Departed at 16.00 and arrived 17.00 at Aasiviit (62V1-IV-13), where a communal house, a meat cache and 13 graves and an angakoq (shamans) cave were mapped. Departed for Akunnaat at 18.00 and arrived an hour later. PKK went to Qeqertarsuataiat to prepare a PPT presentation for the citizens meeting the following day. Weather: Clear and sunny, with frost in the night.

**Aug. 22:** Akunnaat: PTO photo documented the eroded midden at the SW part of the settlement. Part of the settlement of Akunnaat situated on the north shore of the cove was also mapped. Packed field equipment and were ready for departure for Qeqertarsuatsiat at 13.00. Repacking field equipment and re-assembly of rubber dingy for shipment to Nuuk. Last preparation of the presentation for the citizens meeting at 19.00 was done in the late afternoon. The meeting was attended by 20 people and ended at 21.00. Proceeded with a late evening dinner at the communal lodging house.

Weather: Sunny and chilly with feather clouds.



**Fig. 8** A citizen meeting at the school of Qeqertarsuataiat. The audience when the results from the 2013 survey were presented. Photo: Pernille Ødegaard, 2013.

**Aug. 23:** Qeqertarsuataiat: Departure for Nuuk with ship at 7.00. Arrived at Nuuk at 15.00. R & R. Weather: Clear and sunny.

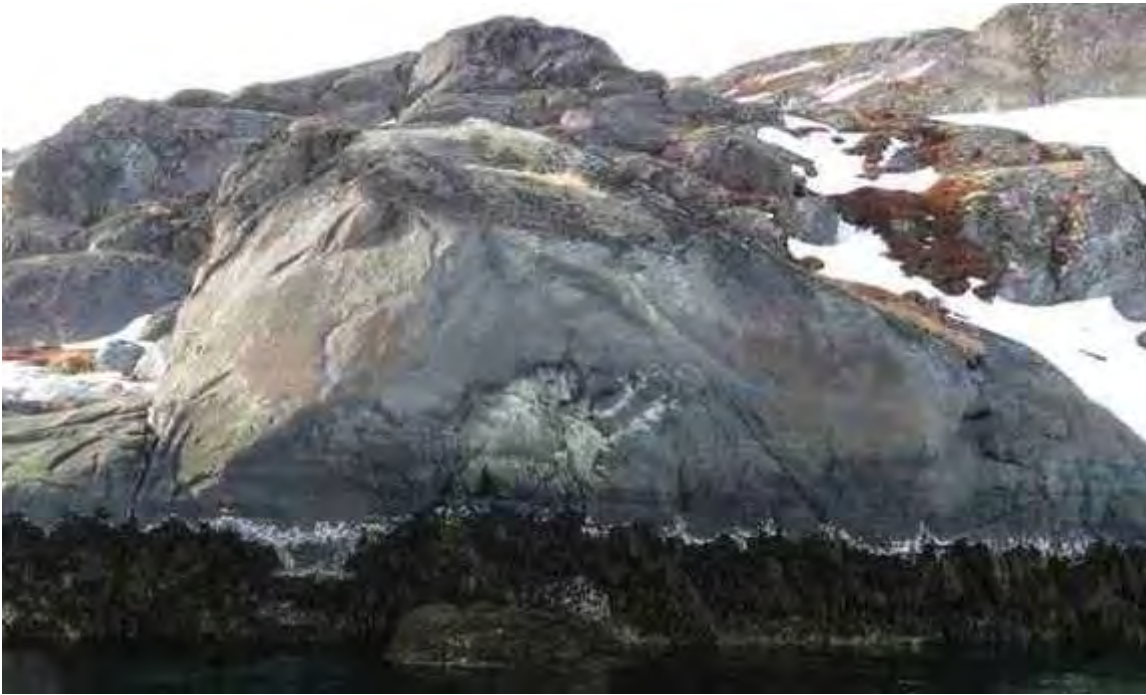
**Aug. 25:** PTO: writing of field report. Meeting at PKK's house to develop a new presentation for the citizens meeting at Aug. 26. Dinning with the joined Norse and Inuit team.

**Aug. 26:** Preparation of presentation by PKK, PTO, KD, PØ and CKM. Citizens meeting held at Ilisimatusarfik (Greenland University). 24 people attended the meeting.

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**Fig. 9** Photo sent by one from the audience at the public meeting in Qeqertarsuatsiaat. At the center of the picture, on the cliff there is a pattern resembling a caribou. Some from the audience told that they pass by a to touch the pattern, when the caribou hunting season starts. It is believed that the ritual will bring luck for the hunting. Photo: Gitte Lamhauge, 2013.



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### 6.2. Survey of sites

#### 6.2.1. Panerfaarserfia, qeq14

On the southern site of the headland half way through the Qeqertarsuatsiaat Fjord to the east of Qeqertarsuatsiaat, on the northern shore is a flat, slightly sloping rock protruding out in the fjord. Jonathan Jakobsen (JJ) from Qeqertarsuatsiaat tells, that the flat rock surrounded by steep cliffs is named "Panerfaarserfia", which in Greenlandic means "The place where some one lost a young polygamist wife". According to JJ an elderly hunter once had taken a young woman as his second spouse. The young spouse was not fond of the marriage and had tried to escape several times. For that reason one day the elderly man had, before leaving for hunting in his kayak, left the young spouse on the flat rock to prevent her from escaping. Later the same day when the hunter returned to collect her she had disappeared and was never found again. According to the tradition the hunter and his family was staying at Naajaat Nuuat a few hundred meters to the west of Panerfaarserfia.

The term panerfak, which means young polygamist wife, is today hardly known in the Greenlandic colloquial. The site and it's name "Panerfaarserfia" is a great example of how the landscape was termed according to the Inuit tradition, how the naming of landscapes could function as a memo and how people in remote settlements like Qeqertarsuatsiaat still keep some of the traditional knowledge handed down from generation to generation.

Photos: 34 – 36 (PTO)



**Fig. 10 "Panerfaarserfia".** According to the local tradition, this is the site where a young woman married to an older hunter disappeared. Photo: Pauline Knudsen, 2013



### 6.2.2. Naajaat Nuuat, qeq15

The site is situated on the northern side of the tip of the headland, in front of the promontory "Naajaat" on the northern shore, halfway through the fjord east of Qeqertarsuatsiaat. According to JJ the site is a place for collecting capelin, which in the early summer or late spring come inshore to spawn on the beach. As the harp seal on it's spring north migration feeds on the large shoals of capelin, the people of Qeqertarsuatsiaat also get their share of the harp seals in the vicinity of Naajaat. Ane Boassen, living at the home for senior citizens in Qeqertarsuatsiaat, whom was the Inuit team interviewed in the summer of 2012, affirms JJ's knowledge of the use of the site. Ane related that her family usually collected and dried capelin at Naajaat Nuuat. The site is situated on a plain area below the slope of the steep promontory of Naajaat. The area has a lush vegetation of grasses, willow and fireweed. Some larger plain areas are vegetated with low grass. Patchy areas with sandy ground are exposed and bedrock is protruding here and there together with boulders fallen from the promontory. A small wooden cabin is erected in the middle of the plain area close to where the sloping area toward the promontory starts.



**Fig. 11 "Naajaat Nuuat".** Since ancient times this has been a place for collecting capelin and hunting migrating seals. Photo: Peter Toft 2013.

**Qeq15-A:** Two hearths of stones, built close to each other. In between them are two metal kettles.

Location: N63° 12.543' / W050° 18.748'

Photo numbers: 37 – 38 (PTO) and 18 (NKA)

**Qeq15-B:** Shelter under the overhang of a big boulder situated at the lower part of the slope. Our guide Jonathan Jakobsen tells that a second-generation descendant of a person born in the shelter still lives in the nearby village of Qeqertarsuatsiaat.

Location: N63° 12.530' / W050° 18.715'

Photo numbers: 40 – 42 (PTO) and 19 -21 (NKA).

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**Qeq15-C:** A miniature tent ring. A playing structure made of small stones.

Photo: 44 (PTO)



**Fig. 12** The children that took part in life at “Naajaat Nuuat” had left a mark in the form of a small play tent ring. Photo: P.A. Toft, 2013

**Qeq15-D:** Oval tent ring made of head sized stones.

Location: N63° 12.529' / W050° 18.773'

Photo number: 45 (PTO)

**Qeq15-E:** Oval tent ring made of head sized stones. The structure is slightly disturbed.

Measurements: Approximately 4 x 3m

Location: N63° 12.519' / W050° 18.768'

Photo number: 46 (PTO)

**Qeq15-F:** A circular grave and a dwelling in the same structure.

The oval dwelling structure has double walls. The grave and the dwelling are overgrown with fireweed (*Chamerion Angustifolium*), willow and grass.

Measurements: Diameter of grave approx. 0,8m. Height: approx.: 0,9m.

Dwelling: 5 x 3m and height of walls up to 0,6m.

Location: N63° 12.522' / W050° 18.773'

Photo numbers: 47 – 49 (PTO)

**Qeq15-G:** Fox trap. Well preserved

Location: N63° 12.503' / W050° 18.761'

Photo number: 50 (PTO)

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**Qeq15-H:** A hunter's bed built of head sized stones against a rock. Some of the stones in the structure have been displaced. The interior of the structure is overgrown with grass.

A hunter's bed is a structure made as an enclosure of stones, which are used as a place for sleeping outdoors in the warm season. Often it is built against bedrock or a boulder to take advantage of the shelter. The enclosure can be of variable size depending of the number of people intended for sleeping in it. For the purpose the enclosure is filled with grass or heather to insulate against the cold from the ground. The persons sleeping in the structure will additionally keep warm by lying close and by covers of skins.

Photo numbers: 51 – 52 (PTO)



Fig. 13 A shelter under the overhang of a boulder at Naajaat Nuuat. Photo: P.K. Knudsen, 2013

The observations made at Naajaat Nuuat are summarized in table 6.1.

<b>Site</b>	Qeq15
Site name	Naajaat Nuuat
Museum ref.	63V2-III-21
Date visited	August 8 <sup>th</sup> , 2013
<b>Location</b>	
N/W (from handheld GPS, ddd.mm.mmm; WGS84)	N63° 12.522' / W050° 18.773'
Altitude	7 – 35m
Surroundings	Situated at the inner part of fjord, Qeqertarsuatsiaat Kangerlua. Naajaat



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	Nuuat is the headland between Qeqeetarsuatsiaat Kangerlua and the small fjord, Naajaat Kangerlua to the north. The structures are distributed on the plain area of the headland, except from the shelter, which is at the lower part of the slope toward the promontory of Naajaat.
<b>Description</b>	
Site	Inuit site, 10 archaeological structures of various kind
Midden dimensions	No midden or concentration of waste is visible.
Maximum depth	250 cm
Vegetation	Grasses, moss, willow, heater and fireweed.
Outline	Rocky coastline except from the small bay on the north side of the headland, where a beach of sand and stones are situated.
Photos	No 18 – 24 (NKA) and 37 – 52 (PTO)
<b>Measurements during visit</b>	
Thaw depth	
Soil temperature	
Water content	
Conductivity	
pH	
Organic content	
Other (ground water level,	
<b>State of preservation</b>	
Buildings/site structure	Not excavated, seem stable.
Disturbance	Limited human disturbance. The site is till in active use, some of the structures, such as tent rings might chance during times.
<b>Midden contents:</b>	
Volume excavated during visit	
Animal droppings	
Textile	
Wood	
Bone	
Turf	.
Other	
State of preservation, in brief	
<b>Samples taken during visit</b>	
<b>Research potential</b>	
Undisturbed remains?	Play structure, shelter under boulder and a complex of dwelling and grave.
Density of finds	
Areas of research	Historical archaeology



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<b>Outreach potential</b>	Some outreach potential: the structures are easy to see. However, there are not many visitors here, except from the local users of the site.
<b>Threats (ongoing/expected)</b> - 1st estimate based on brief visit	
Erosion from water/ice, including erosion from waves, boat-traffic, and freshwater	The archaeological structures are at a fair distance above the sea and are not threatened by erosion from sea. Some stones from the archaeological structures - most likely tent rings and hearths are probably being reused in new structures.
Other erosion (wind, animals, visitors)	No erosion from visitors or animals is observed.
Vegetation, roots	Roots from grasses helps to protect the plain area, on which the soil is quit sandy as can be seen from areas without vegetation.
Drainage	
Melting, heating	
Soil movement (including creeping, cryoturbation, slide)	Not observed
Decay of organic materials	
Other threats	
Future threats?	
<b>Comparison to earlier descriptions</b>	
<b>Monitoring</b>	
Already initiated	
Suggested	
<b>Important unknowns/ research needed</b>	
<b>Mitigation</b>	
Erosion protection	
Rescue excavation	
<b>Field worker</b>	PTO, PKK, PØ, KM

**Remarks about Naajaat Nuuat**

The site is still in active use, which can be seen from the hearths and the cabin. None of the structures are threatened by erosion, as they are situated on the plain and the lower part of the slope at a fair distance from the coast. Even though the site is still in active use the archaeological structures, except from some scavenging of stones seems not to be threatened by human impact. Probably Naajaat is a site that have been en use for hundred of years by the Inuit in the area as it

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seems to be a key seasonal site used from the early spring to summer for gathering capelin and hunting seals. J. Møller (1831) employed at the trading station at Fiskerøset/Qeqertarsuatsiaat also describes how the hunters in the area used to hunt seals soaking up sun on the winter ice in the fjord, close to Naajaat Nuuat, before it melts. Sites as Naajaat Nuuat are part of a living tradition, where the structures of the site are continuously altered and building materials also from archaeological structures are reused in new structures.

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## 6.2.3 Akunnaat / Lichtenfels, qeq16

Akunnaat is the Greenlandic name for Lichtenfels, a settlement established by the German Moravian missionaries during the 1750'ies. It is not known whether the site was an Inuit settlement before the establishment of Lichtenfels. According to Jonathan Jakobsen the Greenlandic name "Akunnaat" can be translated to something like "the place that is not average". Meaning that from the site you are almost never in shortage of game. This might be because it is practically always possible to reach the different kinds of seasonal game from the location. The residents of the area says Akinnaat instead of Akunnaat because of their local dialect that.

According to the Danish administration Lichtenfels was established in 1758 (Bobé, 1921:291) some few years after the establishment of Qeqertarsuaat/Fiskenæsset as a trading station. The Moravian missionaries left Greenland in the year 1900. Akunnaat then became a part of the Danish colonial administration and continued to exist as a settlement until 1951, when it was closed down.

The mapping and survey of Akunnaat have been divided into three areas (A, B and C) that are situated apart from each other. Besides mapping the archaeological structures the shorelines of settlement area B was drawn with the precision GPS. E.g. the shore lines within the circle indicating area B and further east until the graveyard.

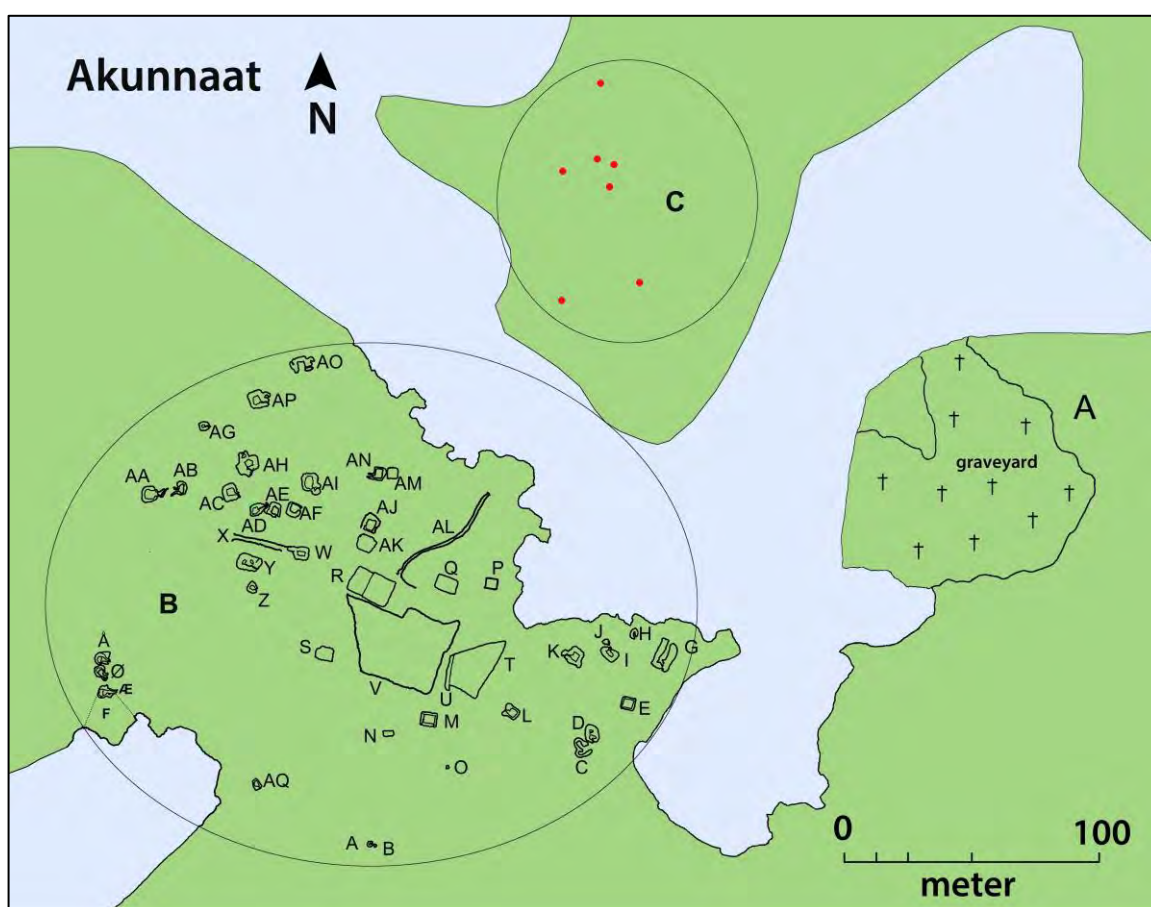


Fig. 14 The site of Akunnaat is divided into three areas: A graveyard (A) by the head of the cove, the main settlement at the southern shore of the cove (B) and a cluster of dwellings and other structures on a small promontory at the northern shore of the cove (C).

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### 6.2.3.1 Akunnaat graveyard, qeq16A

The graveyard at Akunnaat is situated on a cluster of hills east of the settlement at the head of the cove. At first it was estimated that the graves did not number more than three hundred, but after a couple of days of mapping it was realized that the number of graves at least reached 500 hundred and probably exceeded 500 hundred. That caused the survey team to change the mapping to a less extensive mode, where the graves were just mapped by position and photographed. Still only 252 graves corresponding to approximately half part of the graves in yard was mapped. Of these 84 graves got a more thoroughly description and the remaining 168 of the mapped graves was only photographed and had a GPS position taken. It seems like the hilly parts of the yard have initially been preferred for burials, as it is evident that the residues of wooden crosses and fences are still preserved in the lower laying southern parts of the cemetery. This part is considered the youngest. It is evident that no one is taking care of the grave yard, but a sign has been put up in the area were you usually will enter the yard, which are not fenced.

According to an interview with Ole Berthelsen a former inhabitant of Qeqertarsuatsiaat, a considerable number of the graves at the graveyard used to have a small tombstone. These tombstones disappeared around the 1970'ies. From fishing boat close to Akunnaat Ole has observed a helicopter landing at Akunnaat. The passengers that where well dressed had walked around in the graveyard. After that incident people from Qeqertarsuatsiaat had discovered that most of the tombstones had disappeared.



**Fig. 15** The graveyard at Akunnaat seen from southwest. The yard is situated on the headland at the centre of the picture. On the small island between the graveyard and the place from where the photo is taken there is only one grave. According to the local tradition, it is the grave of a witch, as told by H. H. Berthelsen. Photo: P. Toft, 2013



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**Description of graves A – CÅ**

Grave number	A
Location	N63° 03.541' / W050° 44.276'
Dimensions	2.9 x 0.96m. Height: 0.3m
Orientation	NW - SE
Photo number	50 - 51 (NKA)
State of preservation	
Vegetation	Heavy
General description	The grave is rectangular and built of turf. Some remains of a wooden cross.

Grave number	<b>B</b>
Location	N63° 03.593' / W050° 44.275'
Dimensions	2.9 x 0.96m. Height: 0.3m
Orientation	NW - SE
Photo number	67 (NKA)
State of preservation	
Vegetation	
General description	Rectangular and built of turf.

Grave number	<b>C</b>
Location	N63° 03.593' / W050° 44.276'
Dimensions	0.8 x 1.1m. Height: 0,25m
Orientation	E - W
Photo number	69 (NKA)
State of preservation	Well preserved
Vegetation	Overgrown with grasses and moss
General description	Rectangular grave built of turf. A stone is protruding the vegetation in the NW part. It might be a support for a cross.

Grave number	<b>D</b>
Location	N63° 03.592' / W050° 44.278'
Altitude	
Dimensions	1.01 x 0.93m. Height: 0.35m
Orientation	NW - SE
Photo number	66 - 65 (NKA)
State of preservation	Well preserved
Vegetation	Overgrown with grass, willows and heather.
General description	Rectangular grave built from turf and stones.

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Grave number	<b>E</b>
Location	N63°03.594' / W050°44.278'
Dimensions	1.1 x 0.8m. Height: 0.25m
Orientation	NW - SE
Photo number	69 (NKA)
State of preservation	
Vegetation	Slight in the center of grave
General description	Rectangular and bordered with stones and turf. A splint from a wooden cross and a rib bone a lying on top of the grave.

Grave number	<b>F</b>
Location	N63° 03.290' / W050° 44.278'
Dimensions	2 x 0.8m. Height: 0.4m
Orientation	NW - SE
Photo number	52 - 53 (NKA)
State of preservation	
Vegetation	Slight
General description	Rectangular built of turf. Some stones lay bare. Part lid of wooden coffin exposed on top of the grave.

Grave number	<b>G</b>
Location	N63° 03.589' / W050° 44.279'
Dimensions	1.86 x 0.82m. Height: 0.18m
Orientation	SE - NW
Photo number	54 - 56 (NKA)
State of preservation	
Vegetation	Heavy
General description	Rectangular and built of turf. The grave has sagged in the center.



**Fig. 16** Grave G, one of the turf-built graves which have sagged at the Centre. Photo: Pauline Knudsen, 2013.

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Grave number	<b>H</b>
Location	N63° 03.591' / W050° 44.279'
Dimensions	2.3 x 1.1m. Height: 0.3m
Orientation	NW – SE
Photo number	57 - 58
State of preservation	
Vegetation	
General description	Rectangular built of turf. The wooden cross is preserved.

Grave number	<b>I</b>
Location	N63° 03.592' / W050° 44.282'
Dimensions	2.7 x 1.14m. Height: 0.3m
Orientation	SE – NW
Photo number	59 - 60 (NKA)
State of preservation	
Vegetation	Heavy
General description	Rectangular and built of turf.

Grave number	<b>J</b>
Location	N63° 03.392' / W050° 44.281'
Dimensions	2.36 x 1.2m. Height: 0.36m
Orientation	NW – SE
Photo number	61 - 62 (NKA)
State of preservation	
Vegetation	Slight
General description	Rectangular built of turf and with some stones.

Grave number	<b>K</b>
Location	N63° 03.596' / W050° 44.283'
Dimensions	2.19 x 1m. Height: 0.5 m
Orientation	SE - NW
Photo number	63 - 64
State of preservation	
Vegetation	Heavy
General description	Rectangular and closely situated to grave J.

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## INUIT SITES SURVEY

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Grave number	<b>L</b>
Location	N63° 03.594' / W050° 44.282'
Dimensions	1.67 x 0.7 m. Height: 0.26m
Orientation	SE - NW
Photo number	70 (NKA)
State of preservation	
Vegetation	Heavy
General description	Rectangular, and turf built.

Grave number	<b>M</b>
Location	N63° 03.594' / W050° 44.280'
Dimensions	1.4 x 2.45m. Height: 0.4m
Orientation	NW - SE
Photo number	71 - 72 (NKA)
State of preservation	Center of grave have sagged.
Vegetation	
General description	Rectangular grave built of turf.

Grave number	<b>N</b>
Location	N63° 03.295' / W050° 44.282'
Dimensions	1.7 x 2.9m. Height: 0.5m
Orientation	NW - SE
Photo number	74 - 75 (NKA)
State of preservation	
Vegetation	Scarce
General description	Rectangular built of turf and stones. The center of the grave has sagged. Two stones laying on top of the grave at the NW part are for keeping the cross at place.

Grave number	<b>O</b>
Location	N63° 03.596' / W050° 44.283'
Dimensions	1.57 x 1.04 m. Height: 0.27m
Orientation	SE - NW
Photo number	76 - 77
State of preservation	
Vegetation	Heavy
General description	Rectangular, turf built.



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Grave number	<b>P</b>
Location	N63° 03.596' / W050° 44.288'
Dimensions	2.8 x 1.1m. Height: 0.3m
Orientation	NW - SE
Photo number	78 - 79 (NKA) and 106 – 108 (PTO)
State of preservation	
Vegetation	Heavy
General description	Rectangular built of turf. Surrounding the grave is the remains of a wooden fence. The poles with industrial nails still attached have been displaced. The poles are 0.9m long.

Grave number	<b>Q</b>
Location	N63° 03.596' / W050° 44.288'
Dimensions	3.10 x 1.53m. Height: 0.65m
Orientation	SE - NW
Photo number	80 (NKA)
State of preservation	
Vegetation	Heavy
General description	Rectangular, turf built and sagged in the middle.

Grave number	<b>R</b>
Location	N63° 03.595' / W050° 44.287'
Dimensions	1.6 x 0.8 m. Height: 0.29m
Orientation	NE - SW
Photo number	81 (NKA)
State of preservation	
Vegetation	Heavy
General description	Rectangular and turf built

Grave number	<b>S</b>
Location	N63° 03.595' / W050° 44.285'
Dimensions	2.3 x 0.8m. Height: 0.35m
Orientation	NE – SW
Photo number	82 (NKA)
State of preservation	
Vegetation	Heavily
General description	Rectangular. Remains of a wooden cross in the NE part.

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## INUIT SITES SURVEY

## 'PEOPLE OF ALL TIMES' - 2013 INTERIM FIELD REPORT

Grave number	<b>T</b>
Location	N63° 03.595' / W050° 44.283'
Dimensions	1.67 x 0.98m. Height: 0.27m
Orientation	SE – NW
Photo number	73
State of preservation	
Vegetation	Heavy
General description	Rectangular, cross fragments in the Northwestern end of the grave.

Grave number	<b>U</b>
Location	N63° 03.594' / W050° 44.284'
Dimensions	2.3 x 1m. Height: 0.4m
Orientation	NW – SE
Photo number	83 (NKA)
State of preservation	
Vegetation	Slight
General description	Rectangular built of turf. Centre of grave have sagged.

Grave number	<b>V</b>
Location	N63° 03.594' / W050° 44.283'
Dimensions	1.9 x 0.94 m. Height: 0.26m
Orientation	SE – NW
Photo number	84 (NKA)
State of preservation	
Vegetation	Heavy
General description	Rectangular, coffin is visible in the northwestern corner, where cross fragments also are visible. Four nails, two of these are probably machine-made. The grave is turf built.

Grave number	<b>W</b>
Location	N63° 03.593' / W050° 44.284'
Dimensions	1.9 x 0.75m. Height: 0.25m
Orientation	NW – SE
Photo number	84 (NKA)
State of preservation	
Vegetation	
General description	Rectangular built of turf. Remains of a wooden cross are preserved.

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## INUIT SITES SURVEY

'PEOPLE OF ALL TIMES' - 2013 INTERIM FIELD REPORT

Grave number	<b>X</b>
Location	N63° 03.593' / W050° 44.284'
Dimensions	2.4 x 1.6m. Height: 0.45m
Orientation	NW – SE
Photo number	85 (NKA)
State of preservation	
Vegetation	Heavily
General description	Rectangular built of turf and bordered with stones. Remains of a wooden cross with industrial nails are visible.

Grave number	<b>Y</b>
Location	N63° 03.591' / W050° 44.283'
Dimensions	2.55 x 1.05 m. Height: 0.54m
Orientation	NW – SE
Photo number	86 - 87 (NKA)
State of preservation	
Vegetation	Scarce
General description	Rectangular, stone built. 1 cranium, 1 mandible and ribs.

Grave number	<b>Z</b>
Location	N63° 03.591' / W050° 44.284'
Dimensions	1.9 x 1.1m. Height: 0.5m
Orientation	NW – SE
Photo number	86 - 87 (NKA) and 110 - 111 (PTO)
State of preservation	NW part of the grave is disturbed
Vegetation	Slight
General description	Rectangular built of stones. Bones of two adults are visible. From the shape of the eyebrow

Grave number	<b>Æ</b>
Location	N63° 03.590' / W050° 44.284'
Dimensions	1.7 x 1.01m. Height: 0.37m
Orientation	SE – NW
Photo number	88 - 89 (NKA)
State of preservation	
Vegetation	Scarce
General description	Rectangular, almost oval, stone built. One mandible poorly preserved.

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## INUIT SITES SURVEY

## 'PEOPLE OF ALL TIMES' - 2013 INTERIM FIELD REPORT

Grave number	<b>Ø</b>
Location	N63° 03.590' / W050° 44.283'
Dimensions	1.5 x 0.8m. Height: 0.3m
Orientation	NW – SE
Photo number	88 - 89 (NKA)
State of preservation	Slightly disturbed
Vegetation	Medium
General description	Rectangular built of stones. Vertebra and a couple of rib bone from one individual are visible.

Grave number	<b>Å</b>
Location	N63° 03.587' / W050° 44.279'
Dimensions	1.48 x 1.27m. Height: 0.58m
Orientation	NW – SE
Photo number	90 (NKA)
State of preservation	Slightly disturbed in the SE part and some stones have skidded down. Centre of grave have sagged
Vegetation	Heavy
General description	Rectangular, fragments of cross in the NW. One nail, probably machine-made. Turf-built.

Grave number	<b>AA</b>
Location	N63°03.588' / W050°44.282'
Dimensions	3.5 x 0.8m. Height: 0.4m
Orientation	NW – SE
Photo number	92 (NKA)
State of preservation	Slightly disturbed in the SE part and some stones have slide down. Centre of gave have sagged.
Vegetation	Medium
General description	Rectangular built of stones and bordered with turf. Remains of a wooden cross with industrial nails are preserved. The stone that kept the cross in place looks like it have been chopped.

Grave number	<b>AB</b>
Location	N63° 03.587' / W050° 44.282'
Dimensions	2 x 1.42 m. Height: 0.43m
Orientation	SE - NW
Photo number	93 (NKA)
State of preservation	
Vegetation	Heavy
General description	Rectangular turf built



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## INUIT SITES SURVEY

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Grave number	<b>AC</b>
Location	N63° 03.585' / W050° 44.280'
Dimensions	2.96 x 0.9m. Height: 0.25m
Orientation	SE – NW
Photo number	94 - 95 (NKA)
State of preservation	
Vegetation	Heavy
General description	Rectangular. Turf built. Fragments of cross in NW. Five machine-made nails. One femur places about 0,1m from the grave.

Grave number	<b>AD</b>
Location	N63° 03.585' / W050° 44.281'
Dimensions	2.5 x 1.35m. Height: 0.5 m
Orientation	SE – NW
Photo number	96 - 97 (NKA) 112 (PTO)
State of preservation	Badly
Vegetation	Heavy
General description	Rectangular. Wooden coffin fully visible and collapsed. Big stones are keeping the coffin in place. The southern stonewall is 0.7m wide. Six nails, all machine-made. Cross in NW end of grave



**Fig. 17** Grave AD. The wooden coffin are exposed and demolished. Photo: Peter Toft, 2013

## 6.2

## INUIT SITES SURVEY

## 'PEOPLE OF ALL TIMES' - 2013 INTERIM FIELD REPORT

Grave number	<b>AE</b>
Location	N63° 03.584' / W050° 44.281'
Dimensions	1.6 x 1.1m. Height: 0.4m
Orientation	NW – SE
Photo number	98 (NKA)
State of preservation	Centre of grave have sagged.
Vegetation	Medium
General description	Rectangular built of turf.

Grave number	<b>AF</b>
Location	N63° 03.582' / W050° 44.283'
Dimensions	1.7 x 1.2m. Height: 0.3m
Orientation	NW – SE
Photo number	99 (NKA)
State of preservation	Some of the stones on the top are missing.
Vegetation	Heavy
General description	Rectangular built of turf and bordered with stones. A wooden coffin is partly exposed. A partly overgrown wooden cross is situated in the NW part of the grave.

Grave number	<b>AG</b>
Location	N63° 03.582' / W050° 44.285'
Dimensions	2 x 1.2m. Height: 0.7m
Orientation	NW – SE
Photo number	100 - 101 (NKA) and 114 - 116 (PTO)
State of preservation	Stones are missing in one corner and the grave is disturbed at the SE part.
Vegetation	Heavy
General description	Rectangular built of turf and is bordered with stones. Remains of a wooden cross with industrially produced nail are situated in the NW part of the grave.

Grave number	<b>AH</b>
Location	N63° 03.583' / W050° 44.287'
Dimensions	3.1 x 1.2m. Height: 0.5m
Orientation	NW – SE
Photo number	102 (NKA)
State of preservation	
Vegetation	Heavy
General description	Rectangular chamber made of stones and covered with turf. Partly preserved wooden cross is situated in the NW part.

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## INUIT SITES SURVEY

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Grave number	<b>AI</b>
Location	N63° 03.584' / W050° 44.285'
Dimensions	2.15 x 1.37m. Height: 0.37m
Orientation	SE – NW
Photo number	103 (NKA)
State of preservation	
Vegetation	Heavy
General description	Rectangular. Turf built, sagged in the center, stones visible at ground level.

Grave number	<b>AJ</b>
Location	N63° 03.585' / W050° 44.284'
Dimensions	1.9 x 1.6m. Height: 0.7m
Orientation	NW – SE
Photo number	104 (NKA)
State of preservation	Centre of grave have sagged.
Vegetation	Heavy
General description	Rectangular, built of turf and some stones. The grave is built into graves AK and AI.

Grave number	<b>AK</b>
Location	N63° 03.586' / W050° 44.286'
Dimensions	2.57 x 3.9m. Height: 0.64m
Orientation	SE – NW
Photo number	105 - 106 (NKA) 116 (PTO)
State of preservation	
Vegetation	Scarce
General description	

Grave number	<b>AL</b>
Location	N63° 03.587' / W050° 44.286'
Dimensions	1 x 1.5m. Height: 0.2m
Orientation	NW – SE
Photo number	107 (NKA)
State of preservation	
Vegetation	Heavy
General description	Rectangular chamber built of turf. The grave is built into grave AK.

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## INUIT SITES SURVEY

## 'PEOPLE OF ALL TIMES' - 2013 INTERIM FIELD REPORT

Grave number	<b>AM</b>
Location	N63° 03.588' / W050° 44.285'
Dimensions	2.9 x 1.2m. Height: 0.75m
Orientation	NW – SE
Photo number	108 - 110 (NKA)
State of preservation	All top stones are missing
Vegetation	Heavy
General description	Rectangular. The inner part of the chamber is built with stone slabs Measurement of inside of chamber: 1,8 x 07m. A femur is situated in the SE part and a wooden cross with industrially produced nails is overturned in NW part of the grave.

Grave number	<b>AN</b>
Location	N63° 03.589' / W050° 44.286'
Dimensions	1.3 x 0.83m. Height: 0.34m
Orientation	SE – NW
Photo number	111 (NKA)
State of preservation	
Vegetation	Heavy
General description	Rectangular, turf-built

Grave number	<b>AO</b>
Location	N63° 03.589' / W050° 44.288'
Dimensions	2 x 1.23 m. Height: 0.4 m
Orientation	SE – NW
Photo number	114
State of preservation	
Vegetation	Heavy
General description	Rectangular, turf built

Grave number	<b>AP</b>
Location	N63° 03.590' / W050° 44.287'
Dimensions	2.2 x 1.3m. Height: 0.65m
Orientation	NW – SE
Photo number	112 - 113 (NKA)
State of preservation	
Vegetation	Heavy
General description	Rectangular, built of turf with some stones. The grave is built into grave AQ. Partly preserved wooden cross is situated in the NW part.



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## INUIT SITES SURVEY

## 'PEOPLE OF ALL TIMES' - 2013 INTERIM FIELD REPORT

Grave number	<b>AQ</b>
Location	N63° 03.591' / W050° 44.288'
Dimensions	2.15 x 1.5m. Height: 0.5m
Orientation	N – W
Photo number	115 – 116
State of preservation	
Vegetation	Heavy
General description	Rectangular

Grave number	<b>AR</b>
Location	N63° 03.592' / W050° 44.287'
Dimensions	2.5 x 1.9m. Height: 0.7m
Orientation	NW – SE
Photo number	117 - 118 (NKA)
State of preservation	
Vegetation	Heavy
General description	Oval built of stones and covered with turf. North of the grave is a partly preserved wooden cross with industrially produced nails. The cross most likely belongs to one of the graves NE of AR.

Grave number	<b>AS</b>
Location	N63° 03.593' / W050° 44.288'
Dimensions	2.86 x 1.9m. Height: 0.8 m
Orientation	
Photo number	119 - 120 (NKA)
State of preservation	
Vegetation	Heavy
General description	Rectangular to oval. One cranium, one mandible, vertebrae and ribs, pelvis and extremities, sex is undeterminable.

Grave number	<b>AT</b>
Location	N63° 03.593' / W050° 44.287'
Dimensions	2.2 x 1.2m. Height: 0.5m
Orientation	E – W
Photo number	121 - 122 (NKA)
State of preservation	
Vegetation	Heavy
General description	Trapezoid and built of stones. A partly preserved wooden cross. The pole is made of two boards put together.

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Grave number	<b>AU</b>
Location	N63° 03.594' / W050° 44.284'
Dimensions	2.2 x 1.2m. Height: 0.5m
Orientation	E – W
Photo number	121 - 122 (NKA)
State of preservation	
Vegetation	Heavy
General description	Trapezoid and built of stones. A partly preserved wooden cross. The pole is made of two boards put together.

Grave number	<b>AV</b>
Location	N63° 03.595' / W050° 44.291'
Dimensions	1.3 x 0.8m. Height: 0.35m
Orientation	E – W
Photo number	124 (NKA)
State of preservation	
Vegetation	Heavy
General description	Rectangular and built of stones.

Grave number	<b>AW</b>
Location	N63° 03.516' / W050° 44.293'
Dimensions	1.7 x 0.6m. Height: 0.4m
Orientation	NW – SE
Photo number	121 - 122 (PTO) and 125 (NKA)
State of preservation	
Vegetation	Heavy
General description	Rectangular and built of turf. The wooden cross pole with industrial nails, which have not corroded. By the cross one can find a mandible from an adult with very worn down teeth's.

Grave number	<b>AX</b>
Location	N63° 03.591' / W050° 44.290'
Dimensions	2.4 x 3.27 m.
Orientation	
Photo number	128 (NKA)
State of preservation	
Vegetation	Heavy
General description	Big, trapezoid

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## INUIT SITES SURVEY

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Grave number	<b>AY</b>
Location	N63° 03.594' / W050° 44.294'
Dimensions	0.91 x 0.69m. Height: 0.35m
Orientation	SE – NW
Photo number	126 (NKA)
State of preservation	
Vegetation	Heavy
General description	The grave is probably turf built

Grave number	<b>AZ</b>
Location	N63°03.590' / W050° 44.289'
Dimensions	2.1 x 1.25m. Height: 0.7m
Orientation	NW – SE
Photo number	129 - 130 (NKA) and 123 - 125 (PTO)
State of preservation	A stone is removed in the NW part and the hole is covered with a fragment of a cross. The cranium of the individual situates another fragment. The bones of the individual are well preserved and slightly overgrown with moss. The hole in the grave is covered with a piece of turf.
Vegetation	Scarce
General description	Rectangular and built of stones. The chamber is covered with slabs. Through the hole by the cranium is a modern red-brown float for fishing net put into the chamber. The grave contains an adult individual.

Grave number	<b>AÆ</b>
Location	N63° 03.590' / W050° 44.291'
Dimensions	1.35 x 0.86m. Height: 0.24m
Orientation	
Photo number	131 - 132 (NKA)
State of preservation	
Vegetation	Heavy
General description	Rectangular, turf built. Halfway out of the vegetation a cross is visible.

Grave number	<b>AØ</b>
Location	N63° 03.588' / W050° 44.290'
Dimensions	2 x 1.23 m. Height: 1.48m
Orientation	
Photo number	133 (NKA)
State of preservation	
Vegetation	Heavy
General description	Trapezoid, stone and turf built and sagged in the center.

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Grave number	<b>AA</b>
Location	N63°03.587' / W050° 44.274'
Dimensions	1.6 x 1.2m. Height: 0.25m
Orientation	NW - SE
Photo number	134 (NKA)
State of preservation	The center of the grave has sagged
Vegetation	Heavy
General description	Rectangular and built of turf with a frame of stones.

Grave number	<b>BA</b>
Location	N63° 03.583' / W050° 44.287'
Dimensions	1.3 x 0.8m. Height: 0.2m
Orientation	NE – SW
Photo number	158 (NKA)
State of preservation	
Vegetation	Heavy
General description	Rectangular and built of stones. The grave is built into the grave west of it.

Grave number	<b>BB</b>
Location	N63° 03.665' / W050° 44.512'
Dimensions	2.2 x 1.2m. Height: 0.5m
Orientation	E – W
Photo number	625 - 626 (NKA)
State of preservation	
Vegetation	Heavy
General description	Rectangular, stone built. Part of a grave cluster (CA, CE, BD, CD, CF & CG)

Grave number	<b>BC</b>
Location	N63° 03.583' / W050° 44.285'
Dimensions	1.7 x 1.05m. Height: 0.4m
Orientation	NW – SE
Photo number	140 (NKA)
State of preservation	Centre of grave have sagged.
Vegetation	Heavy
General description	Oval and built of stone into the bedrock towards NE



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## INUIT SITES SURVEY

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Grave number	<b>BD</b>
Location	N63° 03.579' / W050° 44.294'
Dimensions	2.06 x 1.15m. Height: 0.35m
Orientation	
Photo number	145 (NKA)
State of preservation	
Vegetation	Heavy
General description	The grave is one among a cluster of six graves (BD - BI).

Grave number	<b>BE</b>
Location	N63° 03.582' / W050° 44.286'
Dimensions	2.55 x 1.2m. Height: 0.5m
Orientation	N – S
Photo number	142 - 143 (NKA)
State of preservation	
Vegetation	Heavy
General description	The grave is part of a cluster of six graves (BD - BI)

Grave number	<b>BF</b>
Location	N63° 03.565' / W050° 44.297'
Dimensions	2.55 x 1.2m. Height: 0.5m
Orientation	N – S
Photo number	142 - 143 (NKA)
State of preservation	
Vegetation	Heavy
General description	Rectangular grave built of stones. Is of a cluster of six graves (BD - BI). Situated between BG and BH

Grave number	<b>BG</b>
Location	N63° 03.584' / W050° 44.257'
Dimensions	2 x 1.2m. Height: 0.6m
Orientation	N – S
Photo number	141 (NKA)
State of preservation	Two stones had fallen to the ground in the S part
Vegetation	Heavy
General description	Oval and built of stone. The grave is one among a cluster of six graves (BD - BI). The grave is situated east of grave BE.

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Grave number	<b>BH</b>
Location	N63° 03.583' / W050° 44.291'
Dimensions	2.4 x 1.6m. Height: 0.6m
Orientation	E – W
Photo number	144 (NKA)
State of preservation	One stone have fallen to the ground
Vegetation	Medium
General description	Oval and built of stone. The grave is one among a cluster of six graves (BD - BI).

Grave number	<b>BI</b>
Location	N63° 03.585' / W050° 44.313'
Dimensions	2.0 x 1.4m. Height: 0.48m
Orientation	
Photo number	146 (NKA)
State of preservation	
Vegetation	Heavy
General description	The grave is one among a cluster of six graves (BD - BI).

Grave number	<b>BJ</b>
Location	N63° 03.581' / W050° 44.286'
Dimensions	2.3 x 1.2m. Height: 0.8m
Orientation	NW – SE
Photo number	155 (NKA)
State of preservation	
Vegetation	Slight
General description	Rectangular and built of stones into a recess in the bedrock towards E. The chamber is covered with few slabs.

Grave number	<b>BK</b>
Location	N63° 03.580' / W050° 44.285'
Dimensions	2.9 x 1.62m. Height: 0.7m
Orientation	NW – SE
Photo number	159 (NKA)
State of preservation	
Vegetation	Heavy
General description	Rectangular and stone built

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## INUIT SITES SURVEY

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Grave number	<b>BL</b>
Location	N63° 03.579' / W050° 44.285'
Dimensions	2.37 x 1.55 m. Height: 0.55m
Orientation	
Photo number	160 (NKA)
State of preservation	Has a small opening at the top
Vegetation	Scarce
General description	Stone built grave. Rib bones, pelvis, under extremities and cranium visible



**Fig. 18** A cluster of stone built graves.  
Photo: Pauline Knudsen, 2013

Grave number	<b>BM</b>
Location	N63° 03.581' / W050° 44.289'
Dimensions	2.5 x 1.2m. Height: 0.53m
Orientation	N – S
Photo number	153 - 154 (NKA)
State of preservation	
Vegetation	Medium to one half-part slight to the other half part.
General description	Rectangular and built of stones. The chamber is covered with few slabs. The grave is one among a cluster of graves (BN, BK and BU).

Grave number	<b>BN</b>
Location	N63° 03.579' / W050° 44.291'
Dimensions	2 x 0.84 m. Height: 0.63m
Orientation	
Photo number	152 (NKA)
State of preservation	
Vegetation	Heavy
General description	Rectangular, part of a grave cluster: BT, BM, CB, BU, and CC. BØ & BÆ.

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## INUIT SITES SURVEY

## 'PEOPLE OF ALL TIMES' - 2013 INTERIM FIELD REPORT

Grave number	<b>BO</b>
Location	N63° 03.581' / W050° 44.298'
Dimensions	1.3 x 1.4m. Height: 1.5m
Orientation	NE – SW
Photo number	151 (NKA)
State of preservation	The center has sagged and it is disturbed on the W side.
Vegetation	Heavy
General description	Triangular grave. It is difficult to determine which material the grave is built of because of the heavy vegetation, but probably of stones. And built of stones into a recess in the bedrock towards E. The chamber is covered with few slabs.

Grave number	<b>BP</b>
Location	N63° 03.576' / W050° 44.284'
Dimensions	2 x 1.3 m. Height: 0.4 m
Orientation	SE – NW
Photo number	164 (NKA)
State of preservation	
Vegetation	Heavy on the S part
General description	Oval grave built of stones. Is one of a cluster of graves (BL-BQ)

Grave number	<b>BQ</b>
Location	N63° 03.578' / W050° 44.286'
Dimensions	2.05 x 1.5m. Height: 0.3m
Orientation	E – W
Photo number	165 (NKA)
State of preservation	
Vegetation	Heavy
General description	The oval grave built of stones is one among a group of eight graves. It is situated between the graves BR and BT

Grave number	<b>BR</b>
Location	N63° 03.577' / W050° 44.284'
Dimensions	1.85 x 1.1 m. Height: 0.48m
Orientation	NE – SW
Photo number	166 (NKA)
State of preservation	
Vegetation	Heavy
General description	Rectangular. Stone built.



## 6.2

## INUIT SITES SURVEY

## 'PEOPLE OF ALL TIMES' - 2013 INTERIM FIELD REPORT

Grave number	<b>BS</b>
Location	N63° 03.577' / W050° 44.287'
Dimensions	2.6 x 1.8m. Height: 0.9m
Orientation	E – W
Photo number	167 - 168 (NKA)
State of preservation	The grave has holes in the W and E part. Is strengthened with a thick branch in the center of the grave.
Vegetation	Heather on the sides and lichens (slight) on the top.
General description	Rectangular grave built of stones. Is situated outermost in the cluster end to end with grave BR. A cranium parted into two is visible. Sutures have not fusion and the teeth's are not worn down.

Grave number	<b>BT</b>
Location	N63° 03.577' / W050° 44.292'
Dimensions	2.6 x 1.4 m. Height: 0,75m
Orientation	NW – SE
Photo number	161 - 162 (NKA)
State of preservation	Three stones have fallen out on the south eastern side
Vegetation	Scarce
General description	Made of stones and rectangular with rounded corners. The walls made of slabs. Part of a cluster of graves (BU, BÆ, BZ, BØ, BN, CC and CD)

Grave number	<b>BU</b>
Location	N63° 03.578' / W050° 44.291'
Dimensions	2.2 x 1.2 m. Height: 0.48m
Orientation	
Photo number	167 (NKA)
State of preservation	
Vegetation	Scarce
General description	Rectangular part of BN cluster

Grave number	<b>BV</b>
Location	N63° 03.576' / W050° 44.290'
Dimensions	3.61 x 1.75m. Height: 0.45m
Orientation	NE – SW
Photo number	169 - 170 (NKA)
State of preservation	Well-preserved
Vegetation	Heavy
General description	Rectangular, has sagged in the center. Mass grave?

## 6.2

## INUIT SITES SURVEY

'PEOPLE OF ALL TIMES' - 2013 INTERIM FIELD REPORT

Grave number	<b>BW</b>
Location	N63° 03.576' / W050° 44.293'
Dimensions	1.25 x 1.05 m. Height: 0.3m
Orientation	NW – SE
Photo number	171 (NKA)
State of preservation	
Vegetation	Heavy
General description	Made of stones and rectangular with rounded corners

Grave number	<b>BX</b>
Location	N63° 03.576' / W050° 44.292'
Dimensions	2 x 1.35m. Height: 0.7m
Orientation	E – W
Photo number	172 - 173 (NKA)
State of preservation	
Vegetation	Heavy
General description	Rectangular and lays side by side with grave BY on the W side.

Grave number	<b>BY</b>
Location	N63° 03.576' / W050° 44.294'
Dimensions	2.9 x 2.3 m. Height: 0.6m
Orientation	NW – SE
Photo number	174 - 175 (NKA)
State of preservation	
Vegetation	Heavy
General description	Made of stones, rectangular. East side of grave neighbor upon grave BX

Grave number	<b>BZ</b>
Location	N63° 03.576' / W050° 44.294'
Dimensions	1.9 x 1.11m. Height: 0.34m
Orientation	SE – NW
Photo number	176 (NKA)
State of preservation	
Vegetation	Heavy
General description	Rectangular

## 6.2

## INUIT SITES SURVEY

## 'PEOPLE OF ALL TIMES' - 2013 INTERIM FIELD REPORT

Grave number	<b>BÆ</b>
Location	N63° 03.578' / W050° 44.293'
Dimensions	2.05 x 1.35 m. Height: 0.4m
Orientation	SE – NW
Photo number	177 (NKA)
State of preservation	
Vegetation	Heavy
General description	Rectangular grave with rounded corners. Is built of stones. Is situated closely between graves BZ and BØ

Grave number	<b>BØ</b>
Location	N63° 03.580' / W050° 44.296'
Dimensions	2.3 x 0.9m. Height: 0.4m
Orientation	W – E
Photo number	179 - 180 (NKA)
State of preservation	Four fallen out stones along the southern side of the structure.
Vegetation	Slight
General description	Build of stones. South side of grave neighbor upon BÆ. On top of the grave to the west lays a well-preserved, withe, part of a left pelvis. Part of a cluster of graves ((BU, BT, BÆ, BZ, BN, CB, CC and CD)

Grave number	<b>BÅ</b>
Location	N63° 03.577' / W050° 44.297'
Dimensions	2 x 1.15 m. Height: 0.42m
Orientation	
Photo number	178 (NKA)
State of preservation	
Vegetation	Heavy
General description	Rectangular with rounded corners. Stone built.

Grave number	<b>CA</b>
Location	N63° 03.584' / W050° 44.293'
Dimensions	2.3 x 1.1m. Height: 0.5m
Orientation	E – W
Photo number	183 (NKA)
State of preservation	
Vegetation	Heavily overgrown with heather and lichens.
General description	Rectangular grave with rounded corners. Is built of stones. Is part of a cluster of eight graves. Is situated on the S side of the cluster.

## 6.2

## INUIT SITES SURVEY

## 'PEOPLE OF ALL TIMES' - 2013 INTERIM FIELD REPORT

Grave number	<b>CB</b>
Location	N63° 03.581' / W050° 44.292'
Dimensions	1.15 x 0.8 m. Height: 0.45m
Orientation	N – S
Photo number	181 (NKA)
State of preservation	
Vegetation	Heavy
General description	Made of turf and rectangular with rounded corners. Part of a group cluster of graves ((BU, BT, BÆ, BZ, BØ, BN, CC and CD)

Grave number	<b>CC</b>
Location	N63° 03.580' / W050° 44.292'
Dimensions	1.3 x 0.7 m. Height: 0.35m
Orientation	E – W
Photo number	182 (NKA)
State of preservation	Disturbed at the SE corner.
Vegetation	Heavy
General description	Made of turf and rectangular. Part of a group cluster of graves ((BU, BT, BÆ, BZ, BØ, BN and CB)

Grave number	<b>CD</b>
Location	N63° 03.583' / W050° 44.296'
Dimensions	2.45 x 1.34m. Height: 0.34m
Orientation	N – S
Photo number	184 (NKA)
State of preservation	
Vegetation	Heavy
General description	Made of stones and rectangular with rounded corners.

Grave number	<b>CE</b>
Location	N63° 03.585' / W050° 44.292'
Dimensions	2.5 x 0.8 m. Height: 0.6m
Orientation	NE – SW
Photo number	186 (NKA)
State of preservation	
Vegetation	Yes
General description	Made of stones and rectangular with rounded corners. Part of a group cluster of graves (CF, CG, CA, CH and CD). Situated between CH and CG. A well-preserved femur is visible inside of the chamber.



## 6.2

## INUIT SITES SURVEY

## 'PEOPLE OF ALL TIMES' - 2013 INTERIM FIELD REPORT

Grave number	<b>CF</b>
Location	N63° 03.588' / W050° 44.292'
Dimensions	2.4 x 2.4m. Height: 0.55m
Orientation	
Photo number	188 (NKA)
State of preservation	Slightly collapsed in the N wall.
Vegetation	Slightly growth of lichens between the stones.
General description	Circular grave built of stones. Part of a cluster of eight graves. Situated E of CI

Grave number	<b>CG</b>
Location	N63° 03.587' / W050° 44.296'
Dimensions	2.49 x 1.53 m. Height: 0.35m
Orientation	N – S
Photo number	187 (NKA)
State of preservation	
Vegetation	Scarce
General description	Made of stones and rectangular with rounded corners.

Grave number	<b>CH</b>
Location	N63° 03.588' / W050° 44.297'
Dimensions	2.1 x 1.3 m. Height: 0.4m
Orientation	E – W
Photo number	193 (NKA)
State of preservation	Two stones have fallen out of the structure on the N side.
Vegetation	Medium
General description	Made of stones and rectangular with rounded corners. Part of a group cluster of graves (CE, CF, CG, CA, and CD).

Grave number	<b>CI</b>
Location	N63° 03.587' / W050° 44.293'
Dimensions	1.7 x 1m. Height: 0.2m
Orientation	E – W
Photo number	189 (NKA)
State of preservation	
Vegetation	Heavily overgrown with moss and willows. It is hard to discern the grave in the vegetation.
General description	Rectangular grave built of stones. Lies between graves CF - CH in a cluster of eight graves.

## 6.2

## INUIT SITES SURVEY

## 'PEOPLE OF ALL TIMES' - 2013 INTERIM FIELD REPORT

Grave number	<b>CJ</b>
Location	N63° 03.591' / W050° 44.293'
Dimensions	1.6 x 1.1 m. Height: 0.2m
Orientation	NW – SE
Photo number	190 (NKA)
State of preservation	The center of the structure has collapsed. One stone had fallen out of the structure on the eastern side
Vegetation	Heavy
General description	Made of turf and framed by stones. Shape is rectangular with rounded corners.

Grave number	<b>CK</b>
Location	N63° 03.588' / W050° 44.293'
Dimensions	2 x 0.63 m. Height: 0.3m
Orientation	
Photo number	195 (NKA)
State of preservation	
Vegetation	Heavy
General description	Made of stones and rectangular with rounded corners.

Grave number	<b>CL</b>
Location	N63° 03.588' / W050° 44.295'
Dimensions	2.45 x 1.3m. Height: 0.3m
Orientation	E – W
Photo number	196 (NKA)
State of preservation	Collapsed in the center.
Vegetation	Heavily overgrown with willow, heather and moss.
General description	Rectangular grave built of stones and. Is situated between CK and CM

Grave number	<b>CM</b>
Location	N63° 03.589' / W050° 44.292'
Dimensions	1.93 x 1.14m. Height: 0,m
Orientation	SE – NW
Photo number	192 (NKA)
State of preservation	
Vegetation	Heavy
General description	Made of stones and rectangular with rounded corners.

## 6.2

## INUIT SITES SURVEY

## 'PEOPLE OF ALL TIMES' - 2013 INTERIM FIELD REPORT

Grave number	<b>CN</b>
Location	N63° 03.591' / W050° 44.291'
Dimensions	1.7 x 1 m. Height: 0.3m
Orientation	NW – SE
Photo number	194 (NKA)
State of preservation	
Vegetation	Heavy
General description	Made of stones and rectangular with rounded corners. Part of a group cluster of graves (CL - CN).

Grave number	<b>CO</b>
Location	N63° 03.89' / W050° 44.293'
Dimensions	3.51 x 2.54m. Height: 0.94m
Orientation	
Photo number	202 - 204 (NKA)
State of preservation	
Vegetation	Scarce
General description	Rectangular with rounded corners. Stone built

Grave number	<b>CP</b>
Location	N63° 03.391' / W050° 44.293'
Dimensions	3 x 1.28 m. Height: 0.4m
Orientation	NW - SE
Photo number	204 (NKA)
State of preservation	One cover stone have been removed at the SE part.
Vegetation	Heavy
General description	Made of stones and rectangular with rounded corners. Part of a group cluster of graves (CO, CQ and CR).

Grave number	<b>CQ</b>
Location	N63° 03.591' / W050° 44.291'
Dimensions	2.9 x 1.2 m. Height: 0.5m
Orientation	NW - SE
Photo number	199 - 200 (NKA)
State of preservation	
Vegetation	Moderate
General description	Made of stones. Cover stones from slabs. One slab is missing at the SE part. Through the whole two neck bones are visible. Part of a group cluster of graves (CF, CG, CA, CH and CD). CH and CG Situated between. One well preserved femur visible inside the chamber.

## 6.2

## INUIT SITES SURVEY

'PEOPLE OF ALL TIMES' - 2013 INTERIM FIELD REPORT

Grave number	<b>CR</b>
Location	N63° 03.592' / W050° 44.295'
Dimensions	2.45 x 1.67m. Height: 0.51m
Orientation	NE - SW
Photo number	195 (NKA)
State of preservation	
Vegetation	Scarce
General description	Made of stones and rectangular with rounded corners.

Grave number	<b>CS</b>
Location	N63° 03.594' / W050° 44.295'
Dimensions	2.6 x 1.6m. Height: 0.4m
Orientation	SE - NW
Photo number	209 - 210 (NKA)
State of preservation	Undisturbed
Vegetation	Heavy by the ends and slightly at the center. Grass, heather and moss.
General description	Rectangular grave built of stones and with rounded corners.

Grave number	<b>CT</b>
Location	N63° 03.594' / W050° 44.297'
Dimensions	3 x 1.45m. Height: 0.49m
Orientation	
Photo number	211 - 212 (NKA)
State of preservation	
Vegetation	
General description	Made of stones and rectangular with rounded corners. Collapsed toward east with vegetation on the collapsed. Cranium and ribs visible.

Grave number	<b>CU</b>
Location	N63° 03.596' / W050° 44.298'
Dimensions	2.8 x 2.2 m. Height: 0.5m
Orientation	N - S
Photo number	213 - 214 (NKA)
State of preservation	Cover stones are missing in the eastern part
Vegetation	Moderate. Moss and ferns are growing from the bottom of the grave.
General description	Made of stones. Chamber covered with slabs.

Grave number	<b>CV</b>
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## 6.2

## INUIT SITES SURVEY

## 'PEOPLE OF ALL TIMES' - 2013 INTERIM FIELD REPORT

Location	N63° 03.592' / W050° 44.301'
Dimensions	2.7 x 1.65m. Height: 0.55m
Orientation	SE - NW
Photo number	215 - 216 (NKA)
State of preservation	Open at the top in the SE part.
Vegetation	Moss inside the grave
General description	Made of stones upon elevated, bedrock outcrop. A displaced cranium and a small part of hummers can be seen under the moss.

Grave number	<b>CW</b>
Location	N63°03.591.' / W050°44.301'
Dimensions	
Orientation	
Photo number	217 (NKA)
State of preservation	
Vegetation	Scarce: Lichens, moss and heather
General description	Made of stones and rectangular with rounded corners.

Grave number	<b>CX</b>
Location	N63°03.591' / W050°44.298'
Dimensions	2.9 x 2.3 m. Height: 1m
Orientation	NE - SW
Photo number	207 - 208 (NKA)
State of preservation	Bones are green and chapped.
Vegetation	Heavy
General description	The grave is stone-built and the chamber is covered with slabs of which one is missing. In the SW part of the chamber a humerus, a radius and an ulna are visible, possibly in situ. By the humerus are a white bead of the whaler type and a fragment of an upper jawbone. The bead is placed upon a corrugated rim fragment of a copper kettle. Another humerus is placed crosswise in the middle of the chamber.

Grave number	<b>CY</b>
Location	N63°03.591' / W050°44.300'
Dimensions	3.25 x 1.13m. Height: 0.65m
Orientation	E – W
Photo number	205 - 206 (NKA)
State of preservation	
Vegetation	Heavy
General description	Made of stones and rectangular with rounded corners.

## 6.2

## INUIT SITES SURVEY

## 'PEOPLE OF ALL TIMES' - 2013 INTERIM FIELD REPORT

Grave number	<b>CZ</b>
Location	N63° 03.586' / W050° 44.303'
Dimensions	3.3 x 3.18m. Height: 1.09m
Orientation	N - S
Photo number	220 - 221 (NKA)
State of preservation	Three small holes on top of grave in the N part. A fox has probably messed up the bones inside the grave.
Vegetation	Many stones have growth of lichens but none in-between. Slight growth of heather on the NW side.
General description	Oval double grave built of stones upon a rock outcrop. A stonewall divides the chamber through the center.

Grave number	<b>CÆ</b>
Location	N63°03.587' / W050°44.298'
Dimensions	2.7 x 2.5 m. Height: 1.1m
Orientation	NE - SW
Photo number	222 - 223 (NKA)
State of preservation	The chamber is easily collapsed
Vegetation	Medium
General description	Oval and made of stones, many of which are large. The chamber with is easily collapsed is covered with large, thick slabs. In side the chamber bones from two individuals can be seen: 2 skulls, a mandible, 8 ribs, 3 femurs and one humerus. Based on the cranial sutures the second individual is not adult. The grave is part of a cluster including CØ, CZ and three other graves.



## 6.2

## INUIT SITES SURVEY

'PEOPLE OF ALL TIMES' - 2013 INTERIM FIELD REPORT

Grave number	<b>CØ</b>
Location	N63°03.584' / W050°44.291'
Dimensions	2.55 x 1.48m. Height: 0.63m
Orientation	N/NW - S/SE
Photo number	190 - 191(NKA)
State of preservation	
Vegetation	Scarce
General description	Made of stones and rectangular with rounded corners.

Grave number	<b>CÅ</b>
Location	N63°03.582' / W050°44.292'
Dimensions	2.87 x 1.8m. Height: 0.53m
Orientation	E - W
Photo number	218 - 219 (NKA)
State of preservation	
Vegetation	Heavy
General description	Made of stones and rectangular with rounded corners.

## 6.2

## INUIT SITES SURVEY

'PEOPLE OF ALL TIMES' - 2013 INTERIM FIELD REPORT

## List of D - I

Grave number	Location	Photo number
DA	N63° 03.582' / W050° 44.289'	137 (PTO)
DB	N63° 03.585' / W050° 44.292'	138 (PTO)
DC	N63° 03.582' / W050° 44.297'	141 (PTO)
DD	N63° 03.581' / W050° 44.298'	140 (PTO)
DE	N63° 03.5'79 / W050° 44.296'	139 (PTO)
DF	N63° 03.577' / W050° 44.288'	142 (PTO)
DG	N63° 03.575' / W050° 44.296'	144 (PTO)
DH	N63° 03.578' / W050° 44.298'	143 + 162 - 170 (PTO)
DI	N63° 03.574' / W050° 44.300'	145 (PTO)
DJ	N63° 03.576' / W050° 44.303'	146 (PTO)
DK	N63° 03.576' / W050° 44.299'	147 (PTO)
DL	N63° 03.578' / W050° 44.299'	168 + 169 (PTO)
DM	N63° 03.577' / W050° 44.304'	148 – 149 (PTO)
DN	N63° 03.577' / W050° 44.307'	150 (PTO)
DO	N63° 03.576' / W050° 44.307'	151 (PTO)
DP	N63° 03.576' / W050° 44.307'	152 (PTO)
DQ	N63° 03.575' / W050° 44.309'	153 - 157 (PTO)
DR	N63° 03.578' / W050° 44.306'	160 - 161 (PTO)
DS	N63° 03.579' / W050° 44.308'	170 + 176(PTO)
DT	N63° 03.578' / W050° 44.304'	171 - 172 + 176(PTO)
DU	N63° 03.578' / W050° 44.302'	173 + 176 (PTO)
DV	N63° 03.579' / W050° 44.305'	174 + 176(PTO)
DW	N63° 03.580' / W050° 44.307'	175 – 176 + 185 (PTO)
DX	N63° 03.583' / W050° 44.307'	177 + 185 (PTO)
DY	N63° 03.581' / W050° 44.305'	178 (PTO)
DZ	N63° 03.582' / W050° 44.304'	180 + 185 (PTO)
DÆ	N63° 03.581' / W050° 44.304'	181 - 183 + 185 (PTO)
DØ	N63° 03.581' / W050° 44.302'	184 (PTO)
DÅ	N63° 03.582' / W050° 44.309'	179 (PTO)

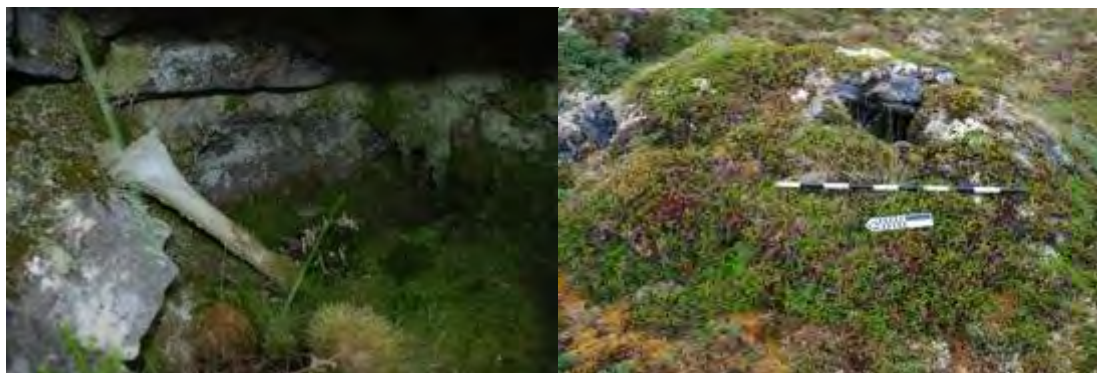


Fig. 20 Interior and exterior grave DQ. Photo: P. Toft, 2013



## 6.2

## INUIT SITES SURVEY

'PEOPLE OF ALL TIMES' - 2013 INTERIM FIELD REPORT

## List of graves starting with E

Grave number	Location	Photo number
EA	N63° 03.584' / W050° 44. 311'	186 (PTO)
EB	N63° 03.584' / W050° 44. 308'	187 (PTO)
EC	N63° 03.584' / W050° 44. 308'	188 (PTO)
ED	N63° 03.585' / W050° 44.303'	189 (PTO)
EE	N63° 03.583' / W050° 44. 305'	190 (PTO)
EF	N63° 03.585' / W050° 44. 303'	191 (PTO)
EG	N63° 03.585' / W050° 44. 303'	138 (PTO)
EH	N63° 03.563' / W050° 44.299'	192 (PTO)
EI	N63° 03.585' / W050° 44. 305'	138 (PTO)
EJ	N63° 03.586' / W050° 44. 301'	138 (PTO)
EK	N63° 03.589' / W050° 44. 303'	138 (PTO)
EL	N63° 03.588' / W050° 44.296'	403 (PTO)
EM	N63° 03.591' / W050° 44. 301'	404 - 405 (PTO)
EN	N63° 03.592' / W050° 44. 304'	406 - 406 (PTO)
EO	N63° 03.594' / W050° 44.300'	408 (PTO)
EP	N63° 03.593' / W050° 44.299'	409(PTO)
EQ	N63° 03.589' / W050° 44.305'	402 (PTO)
ER	N63° 03.593' / W050° 44.307'	410 (PTO)
ES	N63° 03.592' / W050° 44.307'	411 (PTO)
ET	N63° 03.592' / W050° 44.306'	412 (PTO)
EU	N63° 03.593' / W050° 44.306'	418 (PTO)
EV	N63° 03.589' / W050° 44.307'	414 - 415 (PTO)
EW	N63° 03.588' / W050° 44.307'	414 - 416 (PTO)
EX	N63° 03.587' / W050° 44.306'	414 - 417 (PTO)
EY	N63° 03.585' / W050° 44.314'	419 - 420 (PTO)
EZ	N63° 03.584' / W050° 44.313'	421 (PTO)
EÆ	N63° 03.584' / W050° 44.312'	428 - 423 (PTO)
EØ	N63° 03.586' / W050° 44.311'	424 - 425 (PTO)
EÅ	N63° 03.584' / W050° 44.313'	424 - 426 (PTO)



Fig. 21 Lower part of the graveyard. Photo: Peter Toft, 2013

## 6.2

## INUIT SITES SURVEY

'PEOPLE OF ALL TIMES' - 2013 INTERIM FIELD REPORT

Grave number	Location	Photo number
FA	N63° 03.581' / W050° 44.315'	431 - 432 (PTO)
FB	N63° 03.583' / W050° 44.313'	433 - 434 (PTO)
FC	N63° 03.582' / W050° 44.317'	434 - 435 (PTO)
FD	N63° 03.582' / W050° 44.319'	436 - 437 (PTO)
FE	N63° 03.583' / W050° 44.318'	428 + 439 (PTO)
FF	N63° 03.582' / W050° 44.319'	429 + 439(PTO)
FG	N63° 03.581' / W050° 44.322'	430 (PTO)
FH	N63° 03.584' / W050° 44.320'	431 (PTO)
FI	N63° 03.584' / W050° 44.321'	432 (PTO)
FJ	N63° 03.586' / W050° 44.320'	434 (PTO)
FK	N63° 03.584' / W050° 44.317'	433 (PTO)
FL	N63° 03.585' / W050° 44.316'	435 (PTO)
FM	N63° 03.586' / W050° 44.318'	436 + 439(PTO)
FN	N63° 03.586' / W050° 44.316'	437 (PTO)
FO	N63° 03.585' / W050° 44.312'	438 (PTO)
FP	N63° 03.589' / W050° 44.319'	440 + 441 + 443(PTO)
FQ	N63° 03.590' / W050° 44.320'	442 + 444 (PTO)
FR	N63° 03.590' / W050° 44.313'	373 - 374 (NKA)
FS	N63° 03.590' / W050° 44.310'	375 - 376 (NKA)
FT	N63° 03.592' / W050° 44.311'	372 (NKA)
FU	N63° 03.590' / W050° 44.315'	445 (PTO)
FV	N63° 03.592' / W050° 44.313'	371 (NKA)
FW	N63° 03.592' / W050° 44.312'	369 (NKA)
FX	N63° 03.591' / W050° 44.310'	370 (NKA)
FY	N63° 03.593' / W050° 44.312'	368 (NKA)
FZ	N63° 03.594' / W050° 44.310'	367 (NKA)
FÆ	N63° 03.595' / W050° 44.309'	366 (NKA)
FØ	N63° 03.594' / W050° 44.307'	364 - 365 (NKA)
FÅ	N63° 03.595' / W050° 44.305'	363 (NKA)



Fig. 22 At high tide the hill with “the witch’s grave” becomes a small Island. Photo Pauline Knudsen, 2013.

## 6.2

## INUIT SITES SURVEY

'PEOPLE OF ALL TIMES' - 2013 INTERIM FIELD REPORT

Grave number	Location	Photo number
GA	N63° 03.595' / W050° 44.302'	380 (NKA)
GB	N63° 03.595' / W050° 44.299'	381 - 382 (NKA)
GC	N63° 03.595' / W050° 44.299'	383 - 384 (NKA)
GD	N63° 03.596' / W050° 44.299'	385 (NKA)
GE	N63° 03.596' / W050° 44.302'	379 (NKA)
GF	N63° 03.596' / W050° 44.302'	386 (NKA)
GG	N63° 03.595' / W050° 44.303'	387 (NKA)
GH	N63° 03.596' / W050° 44.305'	388 (NKA)
GI	N63° 03.597' / W050° 44.303'	393 - 394 (NKA)
GJ	N63° 03.598' / W050° 44.305'	393 (NKA)
GK	N63° 03.598' / W050° 44.305'	392 (NKA)
GL	N63° 03.598' / W050° 44.306'	390 - 391 (NKA)
GM	N63° 03.598' / W050° 44.307'	398 (NKA)
GN	N63° 03.599' / W050° 44.307'	399 (NKA)
GO	N63° 03.599' / W050° 44.305'	400(NKA)
GP	N63° 03.598' / W050° 44.305'	401 (NKA)
GQ	N63° 03.596' / W050° 44.305'	395 (NKA)
GR	N63° 03.597' / W050° 44.298'	396 (NKA)
GS	N63° 03.598' / W050° 44.298'	397 (NKA)
GT	N63° 03.599' / W050° 44.303'	458 (PTO)
GU	N63° 03.597' / W050° 44.302'	457 (PTO)
GV	N63° 03.599' / W050° 44.299'	456 (PTO)
GW	N63° 03.601' / W050° 44.300'	454 - 455 (PTO)
GX	N63° 03.599' / W050° 44.299'	453 (PTO)
GY	N63° 03.598' / W050° 44.296'	452 (PTO)
GZ	N63° 03.600' / W050° 44.296'	450 - 451 (PTO)
GÆ	N63° 03.599' / W050° 44.297'	449 (PTO)
GØ	N63° 03.600' / W050° 44.302'	447 (PTO)
GÅ	N63° 03.600' / W050° 44.301'	446 (PTO)

## 6.2

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## List of graves starting with H

Grave number	Location	Photo number
HA	N63° 03.596' / W050° 44.299'	464 - 465 (PTO)
HB	N63° 03.599' / W050° 44.300'	466 - 467 (PTO)
HC	N63° 03.602' / W050° 44.299'	468 - 470 (PTO)
HD	N63° 03.603' / W050° 44.300'	471 - 473 (PTO)
HE	N63° 03.603' / W050° 44.298'	474 - 475 (PTO)
HF	N63° 03.607' / W050° 44.301'	476 - 478 (PTO)
HG	N63° 03.602' / W050° 44.304'	481 - 482 (PTO)
HH	N63° 03.601' / W050° 44.302'	479 - 480 (PTO)
HI	N63° 03.601' / W050° 44.302'	483 - 484 (PTO)
HJ	N63° 03.601' / W050° 44.311'	485 - 486 (PTO)
HK	N63° 03.604' / W050° 44.296'	487 (PTO)
HL	N63° 03.604' / W050° 44.303'	488 - 489 (PTO)
HM	N63° 03.605' / W050° 44.303'	490 - 491 (PTO)
HN	N63° 03.604' / W050° 44.308'	492 - 493 (PTO)
HO	N63° 03.603' / W050° 44.305'	494 - 495 (PTO)
HP	N63° 03.604' / W050° 44.308'	498 - 499 (PTO)
HQ	N63° 03.604' / W050° 44.307'	500 - 501 (PTO)
HR	N63° 03.601' / W050° 44.306'	502 - 503 (PTO)
HS	N63° 03.603' / W050° 44.309'	504 - 505 (PTO)
HT	N63° 03.602' / W050° 44.306'	506 (PTO)
HU	N63° 03.603' / W050° 44.308'	507 - 508 (PTO)
HV	N63° 03.602' / W050° 44.311'	509 (PTO)
HW	N63° 03.601' / W050° 44.308'	511+ 514 - 515 (PTO)
HX	N63° 03.603' / W050° 44.308'	512 (PTO)
HY	N63° 03.599' / W050° 44.311'	513 (PTO)
HZ	N63° 03.598' / W050° 44.310'	514 - 515
HÆ	N63° 03.598' / W050° 44.309'	516 - 517 (PTO)
HØ	N63° 03.596' / W050° 44.310'	518 - 519 (PTO)
HÅ	N63° 03.596' / W050° 44.309'	520 (PTO)



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Grave number	Location	Photo number
IA	N63° 03.607' / W050° 44.309'	521 – 522 (PTO)
IB	N63° 03.610' / W050° 44.317'	523 – 524 (PTO)
IC	N63° 03.608' / W050° 44.314'	525 – 526 (PTO)
ID	N63° 03.604' / W050° 44.316'	529 (PTO)
IE	N63° 03.610' / W050° 44.292'	530 (PTO)
IF	N63° 03.609' / W050° 44.310'	531 – 533 (PTO)
IG	N63° 03.602' / W050° 44.320'	531 – 533 (PTO)
IH	N63° 03.606' / W050° 44.314'	536 – 537 (PTO)
II	N63° 03.606' / W050° 44.315	538 – 539 (PTO)
IJ	N63° 03.606' / W050° 44.313'	540 – 542 (PTO)
IK	N63° 03.605' / W050° 44.312'	544 (PTO)
IL	N63° 03.605' / W050° 44.313'	543 (PTO)
IM	N63° 03.604' / W050° 44.316'	545 – 546 (PTO)
IN	N63° 03.608' / W050° 44.318'	547 – 548 (PTO)
IO	N63° 03.607' / W050° 44.318'	549 (PTO)
IP	N63° 03.607' / W050° 44.318'	550 – 551 (PTO)
IQ	N63° 03.606' / W050° 44.319'	552 (PTO)
IR	N63° 03.606' / W050° 44.316'	553 – 554 (PTO)
IS	N63° 03.605' / W050° 44.320'	555 (PTO)
IT	N63° 03.605' / W050° 44.320'	556 (PTO)
IU	N63° 03.605' / W050° 44.320'	557 – 558 (PTO)
IV	N63° 03.608' / W050° 44.325'	559 (PTO)
IW	N63° 03.603' / W050° 44.321'	560 (PTO)
IX	N63° 03.604' / W050° 44.317'	561 (PTO)
IY	N63° 03.603' / W050° 44.314'	562 (PTO)
IZ	N63° 03.604' / W050° 44.316'	563 - 566 (PTO)
IÆ	N63° 03.603' / W050° 44.318'	567 (PTO)
IØ	N63° 03.604' / W050° 44.316'	568 (PTO)
IÅ	N63° 03.604' / W050° 44.321'	569 – 570 (PTO)

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The observations made at Akunnaat / Lichtenfels graveyard are summarized in table 6.2.

<b>Site</b>	Qeq16A
Site name	Akunnaat graveyard
Museum ref	63V2-III-11
Date visited	August 7th - 22nd, 2013
<b>Location</b>	
N/W (from handheld GPS, ddd.mm.mmm; WGS84)	N63° 03.607' / W050° 44.309'
Altitude	1 – 15m
Surroundings	Situated at the inner part of the cove on a small headland stretching from NE between the NE and SE heads of the cove. The headland consists of rocky hills covered with vegetation of heater, willows and grasses.
<b>Description</b>	
Site	The graves in the graveyard is, for the majority, graves of Moravian Christian Inuit and German missionaries. Some few graves might be heathen and for the ones after year 1900 protestant graves. The graves are either stone or turf built. It is estimated that more than 500 graves can be counted in the graveyard.
Midden dimensions	No midden or concentration of waste is visible.
Maximum depth	
Vegetation	Grasses, moss, willow, heater and lichens.
Outline	Rocky coastline that is quit steep towards N and W. The southern part of the yard is at the lowest level approximately 1 meter above sea level.
Photos	No 51 - 223, 362 - 396 (NKA) and 101 - 129, 136 - 195 and 389 - 570 (PTO)
<b>Measurements during visit</b>	
Thaw depth	
Soil temperature	
Water content	
Conductivity	
pH	
Organic content	
Other (ground water level,	
<b>State of preservation</b>	
Buildings/site structure	Most of the 261 mapped graves are well preserved. Some are opened or disturbed in other ways, which makes those more vulnerable for decay. The graves have been disturbed either by humen or foxes. Of the 84 described graves 12 were disturbed or opened, which make 14%

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	of the graves. It is likely an average percentage for the disturbed or opened graves in the hole of the graveyard.
Disturbance	Limited human disturbance. The tombstones of the part of the grave that had such have according to the inhabitants of Qeqertarsuatsiaat been removed in the last half part of the 20-th century.
<b>Midden contents:</b>	
Volume excavated during visit	
Animal droppings	
Textile	
Wood	
Bone	
Turf	
Other	
State of preservation, in brief	
<b>Samples taken during visit</b>	
<b>Research potential</b>	For studies of burial customs during the period of 1750 - 1950 in South West Greenland. The early part of the period where the Inuit converted to Christianity will be of special interest.
Undisturbed remains?	Many of the graves seem undisturbed.
Density of finds	Most graves contain bones of the deceased persons and few of the graves contain grave goods.
Areas of research	Historical archaeology and burial customs
<b>Outreach potential</b>	Some outreach potential: the structures are easy to see. However, there are not many visitors here, except from the local descendants of the deceased.
<b>Threats (ongoing/expected)</b> - 1st estimate based on brief visit	
Erosion from water/ice, including erosion from waves, boat-traffic, and freshwater	The majority of the graves is at a fair distance above the sea level and is not threatened by erosion from sea.
Other erosion (wind, animals, visitors)	Foxes might disturb the graves with openings big enough for a fox to penetrate.
Vegetation, roots	The vegetation seems to protect the grave structures.
Drainage	The majority of the graves seems to be well drained
Melting, heating	
Soil movement (including creeping, cryoturbation, slide)	Not observed
Decay of organic materials	

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Other threats	
Future threats?	
<b>Comparison to earlier descriptions</b>	
<b>Monitoring</b>	
Already initiated	
Suggested	
<b>Important unknowns/ research needed</b>	
<b>Mitigation</b>	
Erosion protection	
Rescue excavation	
<b>Field worker</b>	PTO, PKK, PØ, KM



Fig. 23 Graveyard seen from south. Photo Pauline Knudsen, 2013.



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## 6.2.3.2 Akunnaat settlement B

This area of the settlement is the main living area. The ruin of the church (R) makes the center of the settlement. From the church a stone built path leads down to the beach toward northeast. The other buildings are spread out in all directions. The areas immediately south and east of the church have been used as gardens (V+ T). The ruins with a cement foundation cluster around this area. The Inuit style winter houses and structures known from traditional Inuit sites are spread further out. The settlement was abandoned I 1951. According to HHB the church building was standing until 1980's where it burned down.

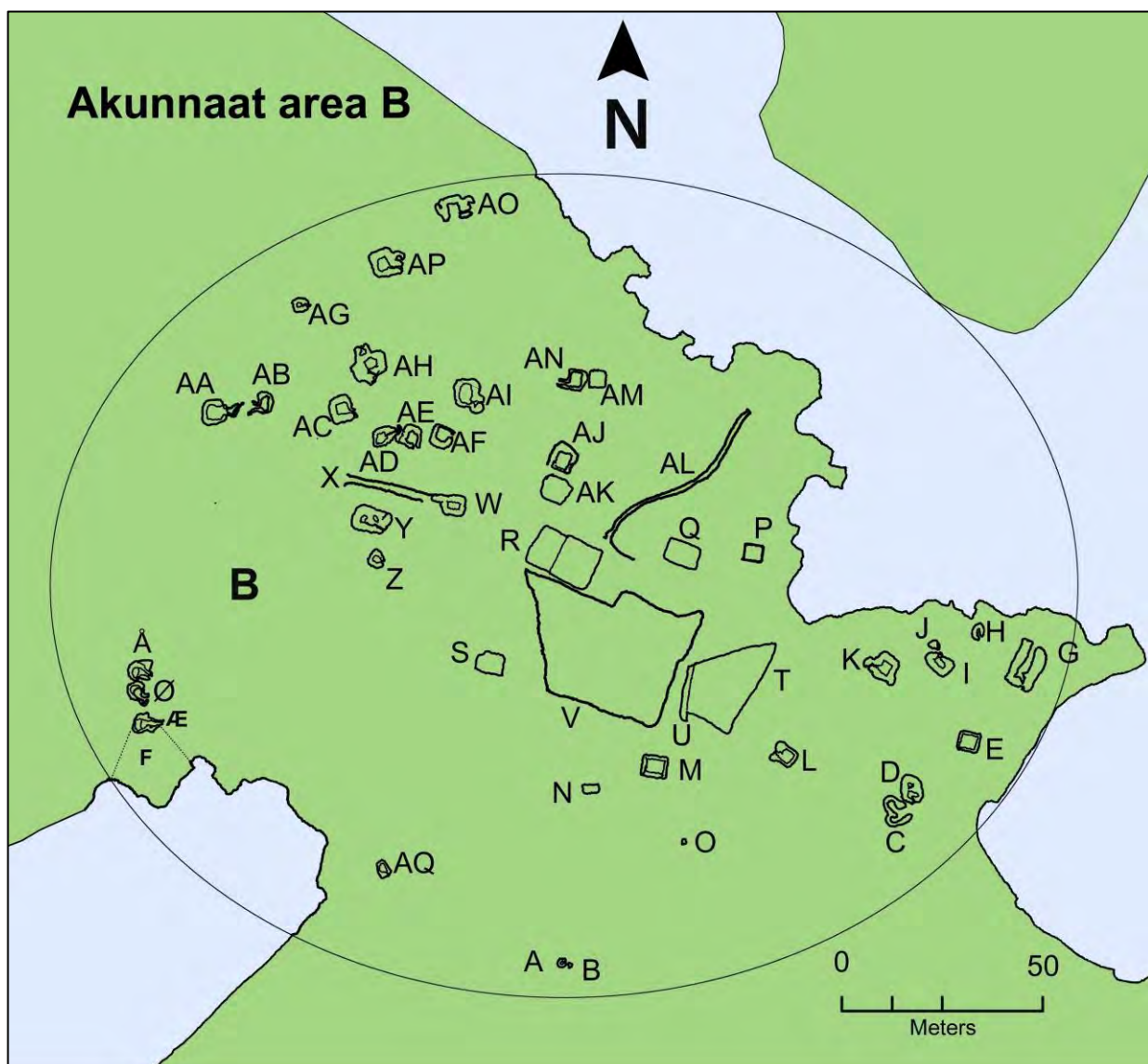


Fig. 24 Map of structures at settlement area at Akunnaat / Lichtenfels

## 6.2

## INUIT SITES SURVEY

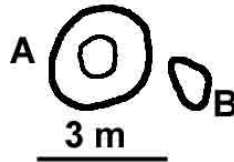
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**Qeq16B-A:** Circular structure on the nearest top south of Akunnaat area B. The structure is made of turf and stones. It is probably an outlook structure, where you can be in relative lee when looking for ships or game. Photos: 34 - 35 (NKA)

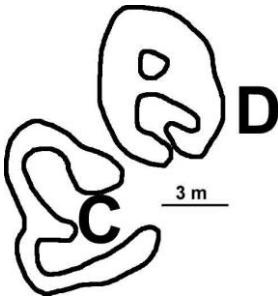


unnaat.

**Qeq16B-B:** Probably a collapsed fox trap. Photos: 36 - 37 (NKA)



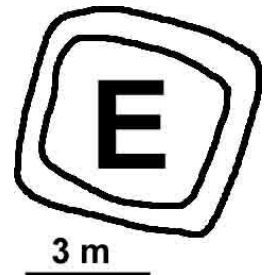
**QEQ16B-C:** A winter house with two rooms and a passage on the S side. The walls are built of stones and turf. The ruin is overgrown with grass, heather and lichens. Photos: 295 - 296 (NKA)



**Qeq16B-D:** A circular winter house with a passage toward S and a cooking niche to E. Wall up to 0,45m. Overgrown with willows, heather and grass. The ruin is well preserved. Photos: 297-299 (NKA)

**Qeq16B-E:** Cement foundation with to pieces of iron reinforcement on each side. Max high of the foundation: 0,54m and thickness of walls: 0,15m. the inside of the foundation is overgrown with grasses. The foundation has incipient cracks. To the W of the foundation is situated 9 pieces of a broken iron stove.

Photos: 301- 302 (NKA)



**Qeq16B-F:** A huge kitchen midden is situated at the head of the southern cove. The midden is in an advanced stage of erosion. Plenty of animal bones are visible in the beach zone in the midden profile. The bones are chalky white, light and the surface is peeling of. Wood or metal are not visible. The preservation conditions seems to be equal through the 45m thick eroded profile. Photos: 952 - 959 (PTO).



**Fig. 25** The kitchen midden in Akunnaat is situated in the southern part of the settlement on a slope toward a cove. The sea is eroding the lower part. The bones in the midden by the beach are in an advanced

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decomposition stage. Photo: P. Toft, 2013.

**Qeq16B-G:** Rectangular winter house. Open on the E side. Made of large stones. The all is up to 0,95m high. Overgrown with grasses. Well preserved.

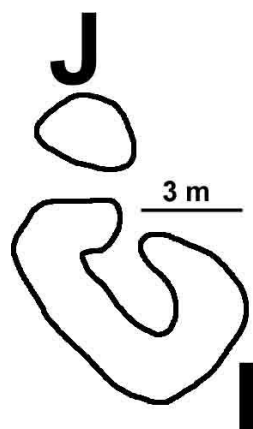
Photos: 303 - 305 (NKA)

DGPS startpunkt: A495



**Qeq16B-H:** Trapezoid foundation built of stones. Entrance is situated on the S side. Bedrock is included in the wall to the N and E. The structure is overgrown with grasses. Height of walls: 0,27m  
Photos: 306 – 307 (NKA)

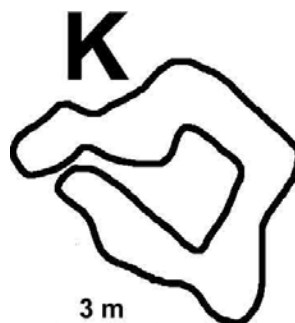
**Qeq16B-I:** Rectangular house ruin built of stones. Entrance towards E. The wall to E has slide. The structure is overgrown with grasses. Heights of walls: 0,63m.  
Photos: 308 -309 (NKA)



**Qeq16B-J:** Rectangular storehouse built of stone. Situated NE of I.  
Photo: 310 - 311 (NKA)

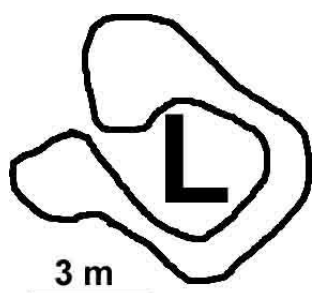
**Qeq16B-K:** Rectangular house built of stones. The stones are spiltted and almost rectangular. The house passage is on the northern side and turns west. The wall is preserved to height of 0,8m. Several stones have fallen into the room, especially in the SE corner. The structure is overgrown with grasses and lichens. The ruin is well preserved. A wooden pole is lays in the vegetation outside the house, west of the NW corner.

Photo: 312 – 316 (NKA)



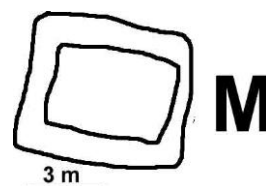
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**Qeq16B-L:** Rectangular cement foundation. Heavily overgrown with grasses and willows. Height of foundation er up to 0,45m and width is 0,13m. Photo: 317 – 319.

**Qeq16B-M:** Rectangular cement foundation. The foundation is established on a layer of stones in the SE corner to even out the differences in level. The height of the foundation is up to 0,55m. The foundation wall is 0,18m thick. At the center of the E side of the house is built a 1,5m and 0,5m wide partition. Photos: 320 – 323 (NKA)

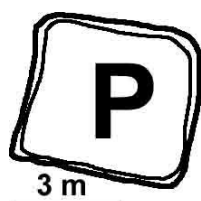


**Qeq16B-N:** Rectangular foundation built of large stones. Upon it a rectangular wooden frame with crossbeams and remains of a plank floor. The frame is made of 0,1 x 0,1m beams. The planks are 0,24m wide. All parts are put together with industrially produced nails. Copper tubes are nail to the frame in three corners on the inside. The wood is well preserved but is overgrown with lichens. The ruin has been the mortuary. Photos 324 – 327 (NKA)

**Qeq16B-O:** Quadrangular well made of 0,17m wide planks. A modern beer bottle can be seen at the bottom of the well. The timber is preserved but has started to decompose. The well has growth of moss. One plank is laying on the ground on the E side of the well. Depth of well: 07m Photos: 329 – 331 (NKA)



**Fig. 26 The well at akunnaat. Photo: Peter Toft 2013**

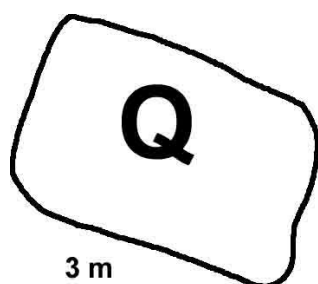


**Qeq16B-P:** Rectangular cement foundation with iron reinforcement. Overgrown with willow and grasses. Maximum height: 065m and thickness: 0,22m. Photos: 332 -334 (NKA)



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**QEQ16B-Q:** Rectangular cement foundations almost completely overgrown with grasses and moss. Height: 0,47 and thickness: 0,2m

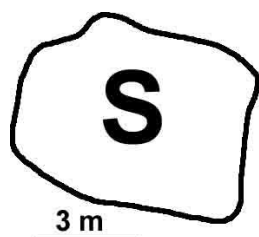
Photos: 335 – 336 (NKA)

**Qeq16B-R:** Quadrangular foundation built of stones. The foundation has a maximum height of 0,55m and the thickness is 0,65 m. A lot of charcoal is seen inside the ruin, in the southern part. Fragments of yellow bricks are spread out along the southern wall in a 2,5m wide zone. Along the W, N and E walls the remains of ochre red roof construction are to be found. At the center of the ruin two parts of a heating stove can be seen. Both have the inscription: J. S. Hess & søn, Middelfart”. More fragments of the heating stove are found in the NW corner, together with a jerry can. The ruin is the remains of the burned down church building. Parts of the burnt roof is situated 4m NW of the ruin. The foundation continues 6,9m towards N. Probably the church building was earlier rectangular and has later been shortened, as on the northern side of the partition nothing is to be found. Along the E wall two hearths have been established with stones and bricks from the church. By the SE corner of the ruin is a sign made of plywood put together with Phillips screws. The inside of the ruin is overgrown with grasses and moss is growing on the foundation. The wood is well preserved, but iron parts have corroded.

Photos: 337 – 356 (NKA)



Fig. 27 The foundation of the former church building. Photo : Pauline Knudsen, 2013.



**Qeq16B-S:** Quadrangular cement foundation established on a foundation of 2 – 4 courses of splitted rectangular stones. The cement foundation is 0.22m high and 0.24m thick. The stone foundation has a maximum height of 0.6m and are built to even out the differences on level. The inside of the foundation is overgrown with grasses. The foundation with grasses and moss.

Photos: 357 – 360 (NKA)

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**QEQ16B – T:** A triangular area with three drainage ditches. Probably it is a garden area.

Photos: 402 – 404



**Fig. 28** The area S and AW of the church foundation makes the two garden areas. The triangular area S of the church has a green to yellowish colour, several ditches are barely visible. Between this and the darker green garden area W of the church foundation a path connects the hilly area to the SW with the central settlement area. Photo: Pauline Knudsen, 2013.



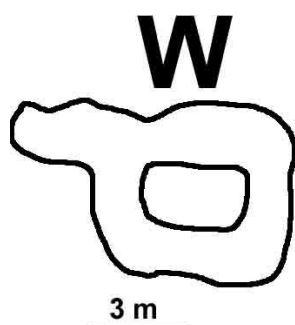
**Fig. 29** A path connects the the hilly area to the SW with the central settlement area. Photo: Pauline Knudsen, 2013

**QEQ16B – U:** Pathway edged with a row of stones on each side. Heavily overgrown with grasses, willows and moss.

Photos: 402 – 404

**QEQ16B – V:** Probably a garden area behind the church. Is surrounded by walls overgrown with grasses.

Photos: 402 – 404



**QEQ16B – W:** Four-sided winter house with a passage on the W side. Built of stones and turf. On the S side is a cooking niche and a small storeroom. Well-preserved and overgrown with grasses.

Photos: 405 – 407 (NKA)

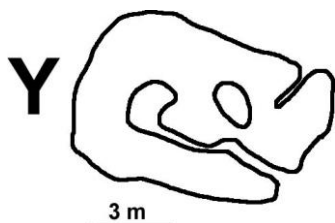
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**QEQ16B – X:** A road leading NW from house W. Built of large stones and overgrown with grasses.

Photos: 408 – 409 (NKA)



**EQ16B – Y:** Winter house built of stones and turf. Passage and two small rooms are on the E side. The inside of the house is rectangular and has a sleeping platform up to the W wall. Wall preserved up to 0,85m. Overgrown with grasses. Well-preserved. Photos: 410 – 411 (NKA)

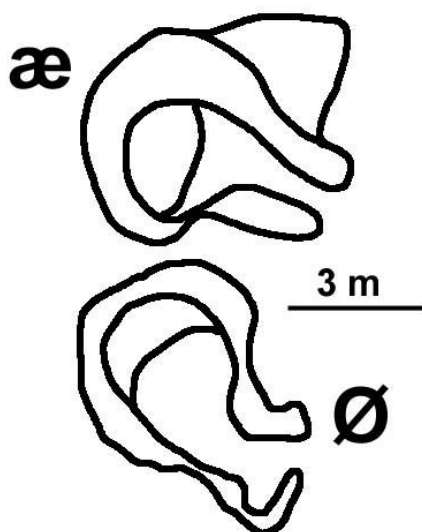
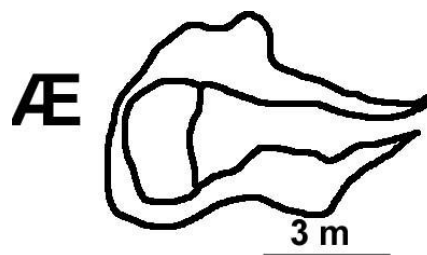


**Fig. 30 Path from house W.**  
Photo: Peter Toft, 2013



**Qeq16B – Z:** Trapezoid winter house with passage and cooking niche on the E side. Built of stones and turf. Overgrown with grasses, moss and heather. Photos: 412 – 413 (NKA)

**Qeq16B – Æ:** Rectangular winter house built of turf. Entrance to the S. The passage makes a turn to E. A sleeping platform is built up to the hinter wall. In the passageway are two wooden planks. The surface have started to decompose. The walls are preserved up to 0,81m. The well-preserved structure is overgrown with grasses. Photos: 414 – 416 (NKA)



**QEQ16B – æ:** Rectangular winter house built of stones and turf. The house has a sleeping platform. The house passage with a cooking niche is on the SE side. The walls are preserved up to 0.55m. Overgrown with grasses and well preserved. Photos: 417 – 419 (NKA)

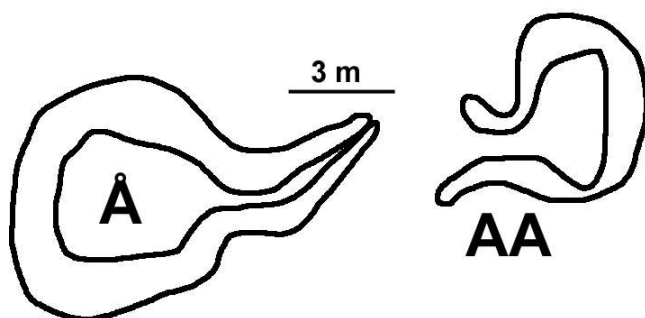
**QEQ16B – Ø:** Rectangular winter house built of turf. House has a sleeping platform and a passage to the S. The wall are preserved up to 0.45m. The structure is overgrown with grasses and is well preserved. Photos: 419 (NKA)



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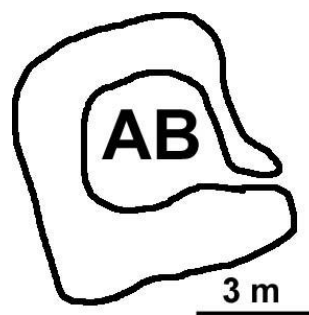
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**QEQ16B – Å:** Rectangular winter house built of stones.  
Long house passage on the E. The passage make a turn to S  
and again to E. The wall are preserved up to 0.4m.  
Overgrown with Heather and grasses. Not well preserved.  
Photos: 420 (NKA)

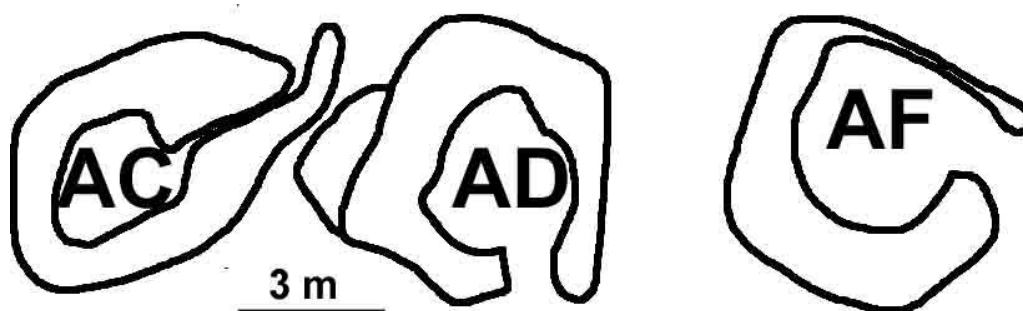


**QEQ16B – AA:** Rectangular winter house built of stones.  
House passage in the SE. A little niche is situated in the NE corner and another in the SW.  
The wall preserved up to 0.7m are overgrown with grasses.  
Photos: 421 – 423 (NKA)

**QEQ16B – AB:** Rectangular winter house built of stones and with a house passage to the W. Remains of a sleeping platform by the hinter wall. On the platform are some animal bones with disintegrated surface. A small wall is seen on the inside N of the entrance. Wall preserved up to 0.9m The hinter wall have collapsed slightly, apart from that the structure is well preserved and overgrown with grasses, moss and dandy lions. Photos: 424 – 426 (NKA)



**QEQ16B – AC:** Quadrangular house built of stones and with a house passage to the E. Wall preserved up to 0.7m. Overgrown with grasses and moss.  
Photos: 427 (NKA)



**QEQ16B – AD:** Quadrangular house built of turf and stones. House passage to S. Remains of a sleeping platform in built up to the hinter wall. Turfs had fallen down on the platform and in front of it. On the hinter wall are some animal bones. The surface of which have disintegrated. In front of the platform in the middle of the N wall is a small piece of a wall.  
The wall is preserved up to 0.7m. Overgrown with grasses. The structure is well preserved.  
Photos: 428 – 429 (NKA)



## 6.2

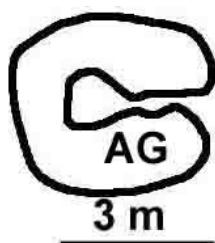
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**QEQ16B – AF:** Rectangular winter house built of stones and turf. House passage to the E Walls preserved up to 0.45m. Turfs have fallen of the hinter wall. The structure is overgrown with dandy lions.

Photos: 433 – 434 (NKA)

**EQ16B – AE:** Large rectangular winter house built of stones. Entrance to E. Behind the W wall is a storeroom. Stones have fallen of the wall at several places. The walls are preserved up to 0.3m. The structure is overgrown with grasses. This house was by a mistake not mapped with G-GPS Photos: 430 – 432 (NKA)



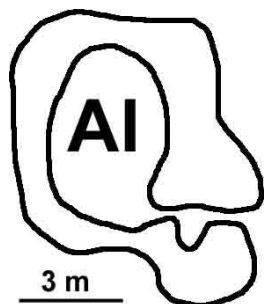
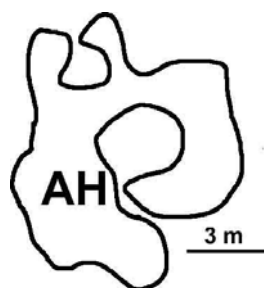
**Fig. 31** Ruin of winter house AE. Photo: Peter Toft, 2013

**QEQ16B – AG:** Small four-sided house built of stones. Entrance to the E. Walls preserved up to 0.55m. Overgrown with ferns, heather and grasses. Well preserved.

Photos: 435 – 436 (NKA)

**QEQ16B – AH:** Large rectangular house built of stones. Entrance to the E. The house has two storerooms. One to N with it's own entrance another to W. Walls preserved up to 0.9m. Overgrown with Grasses and moss.

Photos: 437 – 439 (NKA)



**QEQ16B – AI:** Rectangular house built of stones. Entrance to the E has a cooking niche. In front of the sleeping platform are a stove with a lid and two holes for rings. On the lid you find the inscription: "Godthaab & Christianshavn" The iron have corroded. The walls are preserved up to 0.82m. The structure, which is well preserved, is overgrown with heather and grasses.

Photos: 440 – 446 (NKA)

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**QEQ16B – AJ:** L shaped wall made of large stones. Up to 0.74m in height. Some stones have fallen out, except from that the structure overgrown with grasses and heather is well preserved. Photos: 451 (NKA)

**QEQ16B – AK:** Four sided structure with entrance to S and N. Heavily overgrown with grasses. Photos: 452 (NKA)

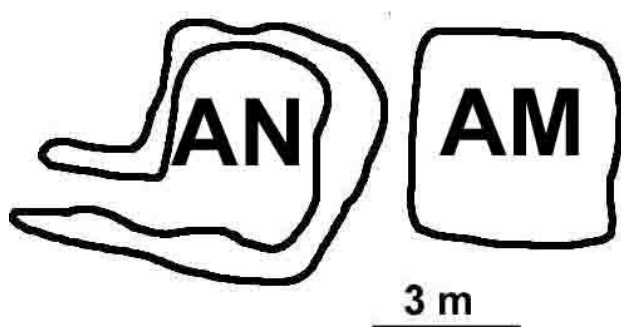


Fig. 32 A four sided cement foundation. Photo: P. Knudsen, 2013

**QEQ16B – AL:** Overgrown pathway edged with large stones. Photos: 453



Fig. 33 Path leading to the beach from the ruin of the church. Photo: P. Knudsen, 2013



**QEQ16B – AM:** Quadrangular foundation made of cement with iron reinforcement. Maximum height: 0,27m. Maximum thickness: 0.15 m. Heavily overgrown with grasses and willow. Photos: 454 (NKA)

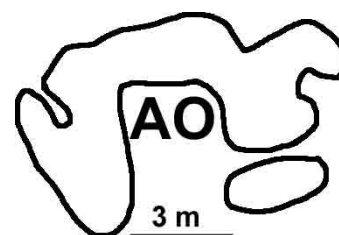
**QEQ16B – AN:** Rectangular winter house built of stones. The entrance to W is overgrown with ferns, grasses, heather and moss. The hinter wall is almost missing. Probably it has been used as materials for AM or AJ. In W of the ruin is a corroded iron stove. Photos: 455 – 456 (NKA)

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**QEQ16B – AO:** Rectangular winter house built of stones. Entrance with a passage way to the SE. E of the Entrance is a small storeroom with an entrance to the SE. The southern wall of the house have been stripped down. Along the E wall is a small platform. Several stones have fallen out of the W wall. The structure is overgrown with grasses. E of the structure is a corroded part of an iron stove.

Photos: 57 – 62 (NKA)



**QEQ16B – AP:** Rectangular winter house with a house passage to E. A storeroom is built into the passage. By the southern wall on the inside may stones have fallen out. Walls preserved up to 0.77m. Inside the structure is a corroded iron stove. The structure is overgrown with grasses and heather. Except from the S wall the structure is well preserved. Photos: 463 – 468 (NKA)



Fig. 34 House ruin AP. Photo: P. Toft, 2013

**QEQ16B – AQ:** Oval structure built of stones. NE – SV oriented. The W wall is best preserved. The walls are up to 0.72m in high. Overgrown with grasses, willow and heather. Photos: 469 – 470 (NKA)

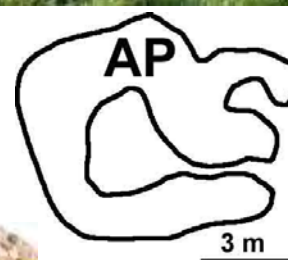


Fig. 35 structure AQ. Photo: Pauline Knudsen, 2013.



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The observations made at Akunnaat Settlement area B are summarized in table 6.3.

<b>Site</b>	Qeq16B
Site name	Akunnaat settlement area
Museum ref	63V2-III-11
Date visited	August 7 <sup>th</sup> - 22 <sup>nd</sup> , 2013
<b>Location</b>	
N/W (from handheld GPS, ddd.mm.mmm; WGS84)	N63° 03.559 / W50° 44.571
Altitude	5 – 20m
Surroundings	Situated at the west coast of Qeqertarsuatsiaq 4 kilometers SW of Qeqertarsuataat. The settlement of Akunnaat / Lichtenfels is placed on the southern shore of a cove at the southern side of fjord Qeqertarsuatsiaat Kangerlua.
<b>Description</b>	
Site	At the settlement site B 47 structures were mapped: 17 winter house ruins, 18 house foundations, 1 church ruin, 1 mortuary, 2 gardens, 1 storehouse, 1 out look, 1 fox trap, 3 roads/paths, 1 well and 1 midden.
Midden dimensions	A huge midden is situated in the southern part of the settlement, at the head of a cove.
Maximum depth	45 cm at the erosion profile at the beach. It is probably deeper further up the quit steep hill where it is spread out from winter house structure
Vegetation	Grasses, moss, willow, heater and lichens.
Outline	The main settlement area (B) is at the base of a headland. The church ruin with garden areas to the south and east makes the center of the settlement. The Inuit dwellings are spread out to the south, west and north. The center of the settlement is relatively plain and is surrounded by hilly green areas, where the Inuit dwellings are situated.
Photos	No 294 – 355 and 402 – 465 (NKA) and 952 – 959 (PTO)
<b>Measurements during visit</b>	
Thaw depth	
Soil temperature	
Water content	
Conductivity	
pH	
Organic content	
Other (ground water level,	
<b>State of preservation</b>	
Buildings/site structure	Most of the structures are well preserved. Especially the winter house ruins, which are overgrown.
Disturbance	Limited human disturbance. The church burned down during the 1980'ies, probably because of careless use of naked flame. According



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	to H. H. Berthelsen the soil in the garden areas are exploited by the inhabitants of Qeqertarsuatsiaat. Hearths are built against the church foundation.
<b>Midden contents:</b>	
Volume excavated during visit	
Animal droppings	
Textile	
Wood	
Bone	Especially seal bones.
Turf	
Other	
State of preservation, in brief	The lower part of the midden contains a lot of seal bones that are in an advance stage of decomposition. The bones are white and light.
<b>Samples taken during visit</b>	
<b>Research potential</b>	The previous settlement of Akunnaat / Lichtenfels is an excellent site for studying historic archaeology on Moravian missionaries in Greenland.
Undisturbed remains?	The remains of the settlement are only scarcely disturbed.
Density of finds	
Areas of research	Historical archaeology on the Moravian missionary, zoo-archaeology and building archeology
<b>Outreach potential</b>	Some outreach potential: the structures are easy to see. However, there are not many visitors here, except from the local descendants of Qeqertarsuatsiaat
<b>Threats (ongoing/expected)</b> - 1st estimate based on brief visit	
Erosion from water/ice, including erosion from waves, boat-traffic, and freshwater	Sea at the lower part is eroding the midden.
Other erosion (wind, animals, visitors)	
Vegetation, roots	The vegetation seems to protect the winter house structures.
Drainage	
Melting, heating	
Soil movement (including creeping, cryoturbation, slide)	Not observed
Decay of organic materials	Rate unknown
Other threats	
Future threats?	

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<b>Comparison to earlier descriptions</b>	No earlier description exists
<b>Monitoring</b>	
Already initiated	
Suggested	
<b>Important unknowns/ research needed</b>	
<b>Mitigation</b>	
Erosion protection	
Rescue excavation	
<b>Field worker</b>	PTO, PKK, PØ, KM

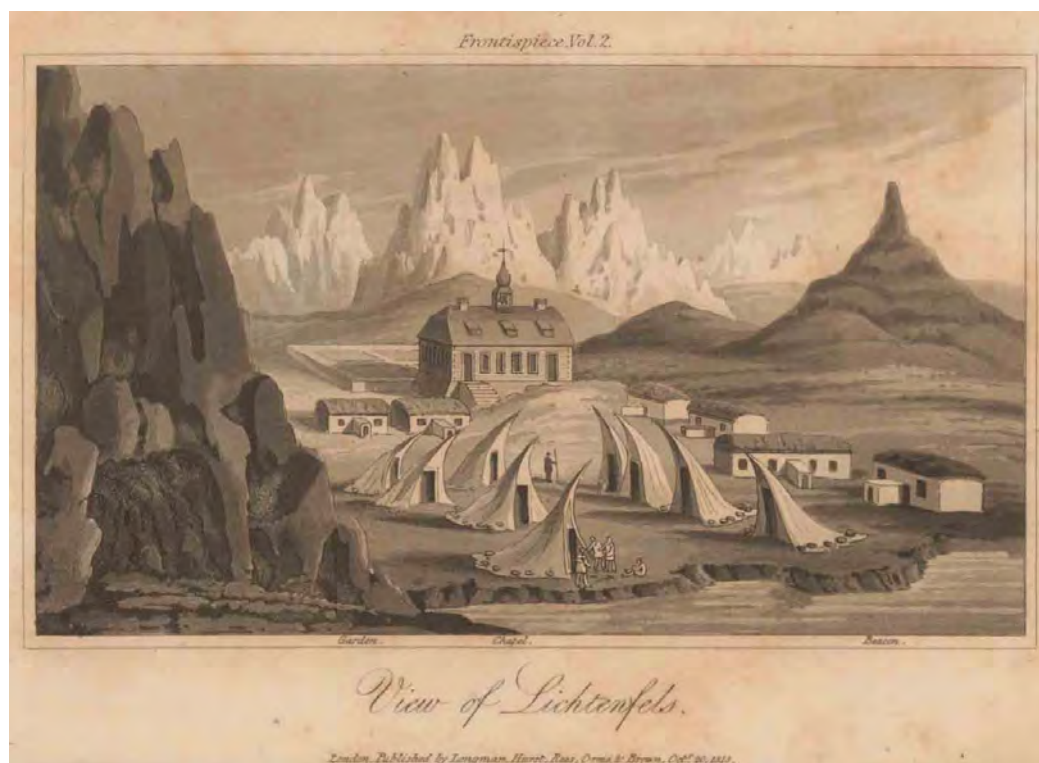


Fig. 36 Copy of old print of Akunnaat from the internet. The picture was used as illustration in *Historie von Grönland* by Cadid Crantz (1767)  
<http://jcb.lunaimaging.com/luna/servlet/detail/JCB~1~1~5441~8020007:View-of-Lichtenfels>

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## 6.2.3.3 Settlement area C

On the north side of the cove is a headland with some dwellings and other structures. Except from the fox trap all the dwellings in this area look as if they are older than most of the structures on the southern side of the cove. The 7 structures include 2 winter house, 2 tent foundations, 1 cache, 1 grave and a fox trap. Included to this site are 3 structures situated in the mountains S of Akunnaat / Lichtenfels: 2 fox traps and a cairn. The headland is being eroded. Especially structure D is in danger of being washed out in the future if the erosion continues.

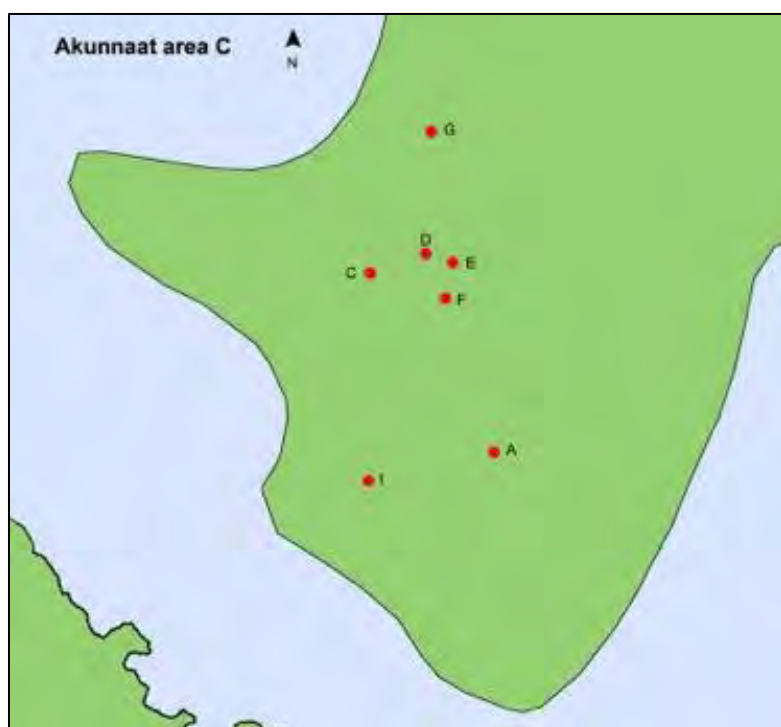


Fig. 37 Map of area C at Akunnaat /Lichtenfels.



Fig. 38 Cairn above Akunnaat to the South.  
Photo: Pernille Ødegaard, 2013

**Qeq16C-A:** Rectangular tent foundation with entrance and passage on the W side. Inside the room on the surface is a well-preserved seal scapula. The structure is overgrown with willow, grasses, lichens and heather.

Measurements: 2.15 x 1.9m. Height of walls: 0.28m., length of passage: 2.3m.

Location: N63°03.629 ' / W50° 44.482

Photos: 967 - 968 (PTO)

**Qeq16C-B:** A cairn built of stones on the mountain south of Akunnaat

Location: N63° 03.445 / W50° 44.087

Photo: 0866-67 (PØ)

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**Qeq 16C-C:** Trapezoid winter house built of stones. Entrance with a passage on the W side. The structure is overgrown with heather and willows. Some well-preserved animal bones are visible on the surface.

Measurements: 1.9 x 1.7m. Height of walls: 0.39m. Length of passage: 1.6m

Location: N63°03.651' / W050°44.511'.

Photos: 627 – 628 (NKA)



**Fig. 39** Winter house ruin at Akunnaat area C. It is most probably belong to a member of the Moravian congregation. The trapezoid form of the dwelling is a special feature of this congregation. Photo: Pernille Ødegaard, 2013.

**Qeq16C-D:** Trapezoid, turf built ruin of a winter house. N side of the structure is widest. On the S side the entrance has an approximately 3m long house passage. The structure is situated E of a small lake and is overgrown with grasses. The headland where is house is situated is being eroded. The house is only one meter and a half from the beach to the NW and SW.

Location: N63° 03.647' / W050° 44.525'

Photos: 618 – 619 (NKA)

**Qeq16C-E:** Quadrangular stone built tent foundation. The entrance with a house passage that makes a turn toward N is situated on the W side of the foundation. The structure is overgrown with grasses, willow, heather, lichens and moss.

Location: N63° 03.651' / W 050° 44.507'

Photos: 621 – 622 (NKA)

**Qeq16C-F:** A very small trapezoid storeroom. Entrance toward W. Overgrown with willow, grass and moss

Location: N63° 03.647' / W 050° 44. 506'

Photos: 622 - 623 (NKA)



**Qeq16C-G:** Grave.

Location: N63°03.665' / W50°44.512'

Photos: 624 - 625 (NKA)

**Qeq16C-H:** Fox trap

Location N63° 03.622' / W50°44.510'

Photos: 612 - 614

**Fig. 40 - 41** Fox trap at settlement area C.  
Photo: Pernille Ødegaard, 2013.



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**16C – I:** Three fox traps, that are built high up in the landscape S of Akunnaat. They seem very old.

Location: N63°03.488' / W050°44.117'

Photos: 0866-67 (PØ)

The observations made at Akunnaat area C are summarized in Table 6.4.

<b>Site</b>	Qeq16C
Site name	Akunnaat North
Museum ref	63V2-III-11
Date visited	August 7 <sup>th</sup> - 22 <sup>nd</sup> , 2013
<b>Location</b>	
N/W (from handheld GPS, ddd.mm.mmm; WGS84)	N63°03.651' / W050°44.511'
Altitude	0,5 – 15m
Surroundings	Situated at the northern headland in the cove on a small headland stretching from NE between the NE and SE heads of the cove. The headland consists of rocky hills covered with vegetation of heater, willows and grasses.
<b>Description</b>	
Site	The site is situated on a headland on the northern side of the cove just opposite to Akunnaat.
Midden dimensions	No midden or concentration of waste is visible.
Maximum depth	
Vegetation	Grasses, moss, willow, heater and lichens.
Outline	The headland has a small lake. The site is not easily reach by walking from the main settlement (area B). One has to circumnavigate the cove and walk up on the hill to come down to the site. With a boat it is easy to cross the cove.
Photos	No 668 – 682 (NKA) and 967 -968 (PTO)
<b>Measurements during visit</b>	
Thaw depth	
Soil temperature	
Water content	
Conductivity	
pH	
Organic content	
Other (ground water level,	
<b>State of preservation</b>	

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Buildings/site structure	Not excavated, seem stable. Most of the structures are well preserved. Dwelling D will be reached by the sea if the sea-level rises
Disturbance	Very limited human disturbance.
<b>Midden contents:</b>	
Volume excavated during visit	
Animal droppings	
Textile	
Wood	
Bone	
Turf	.
Other	
State of preservation, in brief	
<b>Samples taken during visit</b>	
<b>Research potential</b>	Same as area B at Akunnaat
Undisturbed remains?	The structures seems undisturbed
Density of finds	
Areas of research	Historical archaeology
<b>Outreach potential</b>	Some outreach potential: the structures are easy to see. However, there are not many visitors here.
<b>Threats (ongoing/expected)</b> - 1st estimate based on brief visit	
Erosion from water/ice, including erosion from waves, boat-traffic, and freshwater	Winter house D will be reached by the sea within a time frame of 10 years if the relative level continues rises to
Other erosion (wind, animals, visitors)	
Vegetation, roots	The vegetation seems to protect the grave structures.
Drainage	
Melting, heating	
Soil movement (including creeping, cryoturbation, slide)	Not observed
Decay of organic materials	Rate unknown
Other threats	
Future threats?	
<b>Comparison to earlier descriptions</b>	

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<b>Monitoring</b>	
Already initiated	
Suggested	
<b>Important unknowns/ research needed</b>	
<b>Mitigation</b>	
Erosion protection	
Rescue excavation	
<b>Field worker</b>	PTO, PKK, PØ, KM

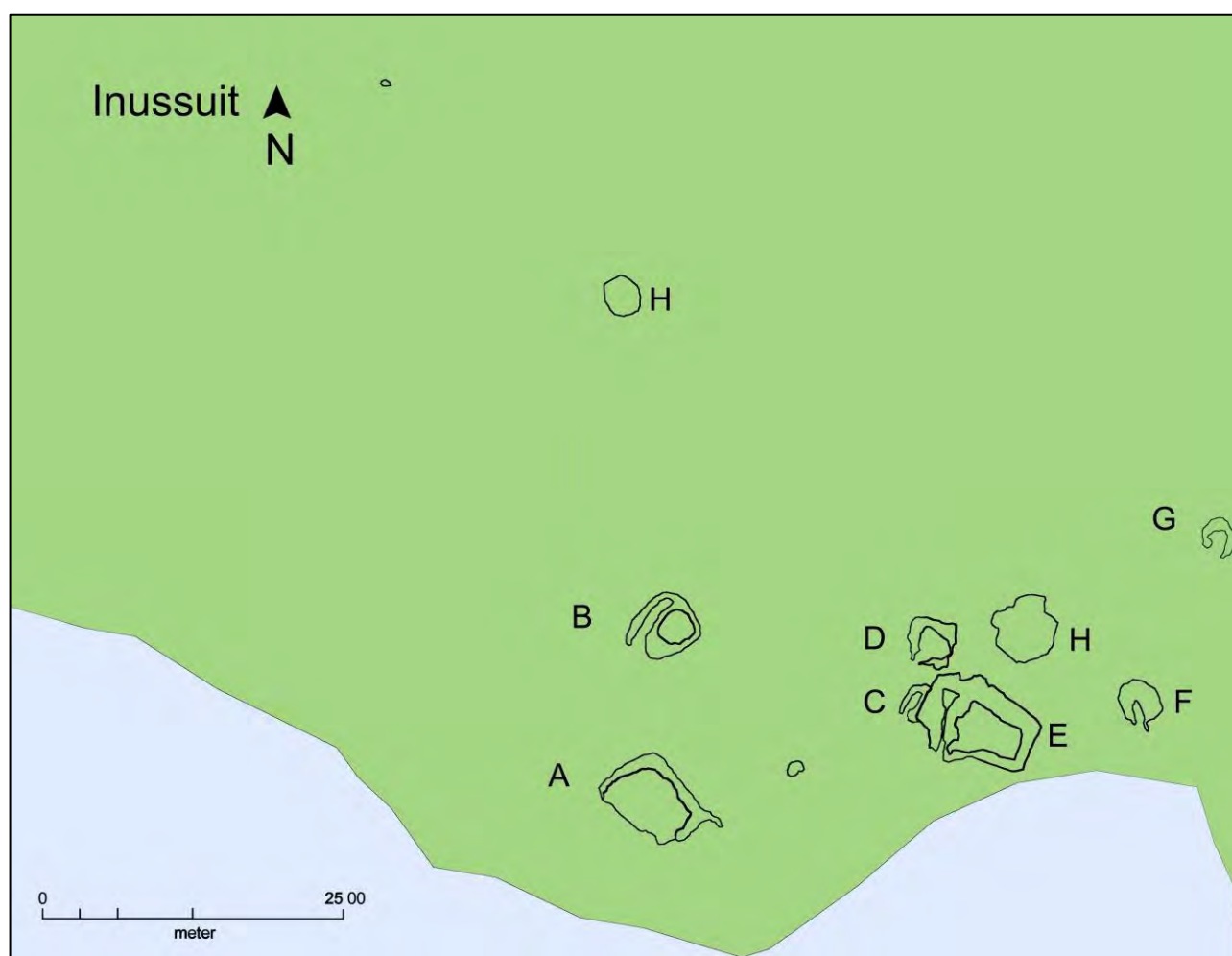
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## 6.2.4. Inussuit, QEQ 17

When we decided to go to Itersarmiut our guide H.H. Berthelsen told about this site of Inussuit, that he knew. Because it was quit close to Itersarmiut it was visited. It is situated on the E side of a small strait. According to Bobé the site was inhabited in the late 1700's as after an epidemic in 1782 some hunters from Qeqertarsuatsiaat was relocated to the place, though it was uninhabited in 1809 (Bobé, 1921). 9 structures were mapped, of these 4 are for sure dwelling structures. From the south the sea is eroding the site. The midden areas that use to be in front of the entrances have all disappeared.



**Fig. 42 Mapped structures at Inussuit. The coastline is not as shown on the map. Because of lack of time the real coastline was not mapped, as it was at Itersarmiut and at Akunnaat / Lichtenfels. The coastline is closer to the structures than the map shows.**



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**Qeq17-A:** A turf built, rectangular, communal house. The house with an entrance to the W has a partition. The wall on the west side is being eroded. The SW corner of the house is badly eroded. At that part very decomposed wood, slabs of stone and white, light and porous animal bones. A small storeroom is placed at the S wall of the house. The house is threatened but mainly well-preserved. The walls are preserved up to 0,85m. The structure is overgrown with grasses and lyme grass.

Photos: 736 – 742 (PTO)



**Fig. 43** Midden below house A, eroded by the sea. Photo: P. Toft, 2013



**Fig. 44** Communal house A seen from east. Photo: P. Toft 2013



**Fig. 45** Communal house A seen from SW. Photo: Peter Toft, 2013.

**Qeq17-B:** Quadrangular tent foundation narrowing toward W, where the entrance might be. On the NW side is a narrow room. Heavily overgrown with heather.  
Photos: 736 – 748 (PTO)

**Qeq17-C:** Trapezoid house with an entrance to S. To one side is a small room  
Photos: 476 – 479 (NKA)

**Qeq 17-D:** Trapezoid house with a house passage on the southern side.

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**Qeq17-E:** Communal house with two entrances, both on the S side, have partly eroded into the sea. Photos: 480 – 484 (NKA)

**Qeq17-F:** Circular, turf built structure. No visible entrance. Heavily overgrown with grasses. Walls preserved up to 0.63m. Badly preserved – it might not be a dwelling structure. Photo: 488 (NKA)

**Qeq17-G:** Circular house ruin with an entrance on the SE side. The S wall is built against a boulder. Heavily overgrown with grass. The walls have probably fallen into the room. Photos: 485 – 487 (NKA)

**Qeq17-H:** Grave, stone built. The cover stone of big slabs have collapsed. Photos:

**The observations made at Inussuit summarized in table 6.5.**

<b>Site</b>	Qeq17A
Site name	Inussuit
Museum ref	63V2-III-2
Date visited	August 13 <sup>th</sup> and 18 <sup>th</sup> , 2013
<b>Location</b>	
N/W (from handheld GPS, ddd.mm.mmm; WGS84)	N63° 05.527' / W50° 58.648'
Altitude	1 - 26 m
Surroundings	Situated among the skerries approximately 20 km . NW of Qeqertarsuatsiaat
<b>Description</b>	
Site	The graveyard is for the majority of graves Moravian Christians Inuit and German missionaries. Some few graves might be heathen and the later ones are protestant graves. The graves are either stone- or turf-built
Midden dimensions	No midden or concentration of waste is visible.
Maximum depth	
Vegetation	Grasses, moss, willow, heater and lichens.
Outline	Rocky coastline that is quit steep towards N and W. To the S
Photos	No 18 – 24 (NKA) and 37 – 52 (PTO)
<b>Measurements during visit</b>	
Thaw depth	
Soil temperature	
Water content	
Conductivity	
pH	
Organic content	
Other (ground water level,	

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<b>State of preservation</b>	
Buildings/site structure	Not excavated, seem stable. Most of the graves are well preserved. Some few are opened or disturbed in other ways, which makes those more vulnerable for decay.
Disturbance	Limited human disturbance. The tombstones of the part of the grave that had such have according to the inhabitants of Qeqertarsuatsiaat been removed in the last half part of the 20th century.
<b>Midden contents:</b>	
Volume excavated during visit	
Animal droppings	
Textile	
Wood	
Bone	
Turf	.
Other	
State of preservation, in brief	
<b>Samples taken during visit</b>	
<b>Research potential</b>	For studies of burial customs during the period of 1750 – 1950. The early part of the period where the Inuit converted to Christianity will be of special interest.
Undisturbed remains?	Many of the graves seem undisturbed.
Density of finds	Most graves contain bones of the deceased persons and few of the grave do contain grave goods.
Areas of research	Historical archaeology and burial customs
<b>Outreach potential</b>	Some outreach potential: the structures are easy to see. However, there are not many visitors here, except from the local descendant of the deceased.
<b>Threats (ongoing/expected)</b> - 1st estimate based on brief visit	
Erosion from water/ice, including erosion from waves, boat-traffic, and freshwater	A majority of the graves is at a fair distance above the sea level and are not threatened by erosion from sea. Some few graves have been opened either by human or foxes.
Other erosion (wind, animals, visitors)	Foxes might disturb the graves with openings big enough for a fox to penetrate.
Vegetation, roots	The vegetation seems to protect the grave structures.
Drainage	
Melting, heating	
Soil movement (including	Not observed

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creeping, cryoturbation, slide)	
Decay of organic materials	Rate unknown
Other threats	
Future threats?	
<b>Comparison to earlier descriptions</b>	
<b>Monitoring</b>	
Already initiated	
Suggested	
<b>Important unknowns/ research needed</b>	
<b>Mitigation</b>	
Erosion protection	
Rescue excavation	
<b>Field worker</b>	PTO, PKK, PØ, KM



### 6.2.5 Itersarmiut, qeq18A & B

This site was recommended by a resident of Qeqertarsuatsiaat, because of the many graves, some of which might contain mummified bodies. In Bobé's description of the district this site is probably one that is mentioned as "Itarsormiut". According to Bobé some families were relocated from to this site in 1872 after an epidemic that raged the area. Judging from the type of dwellings and the finds of whalebones, that might have been used in the construction of dwellings, and a whalebone artifact that might have been sawed though in a way, done before the introduction of European saws indicates, that the site has a longer occupation history than the 18'th century. This site did not produce any mummies, but a midden under structure L showed up to contain well-preserved organic material. Two pieces of skin and a whalebone artifact that were washed out on the beach were rescued. When surveying the site and its surroundings HHB discovered caches, traps and two grave in a valley next to the cove to the west. The midden below dwelling L and M at Itersarmiut A, contains such well-preserved organic material that the midden must be classified as an priority for rescue exviation. It has to be reconsidered weather this midden should the one this for an rescue excavation in the planned REMAN's project.

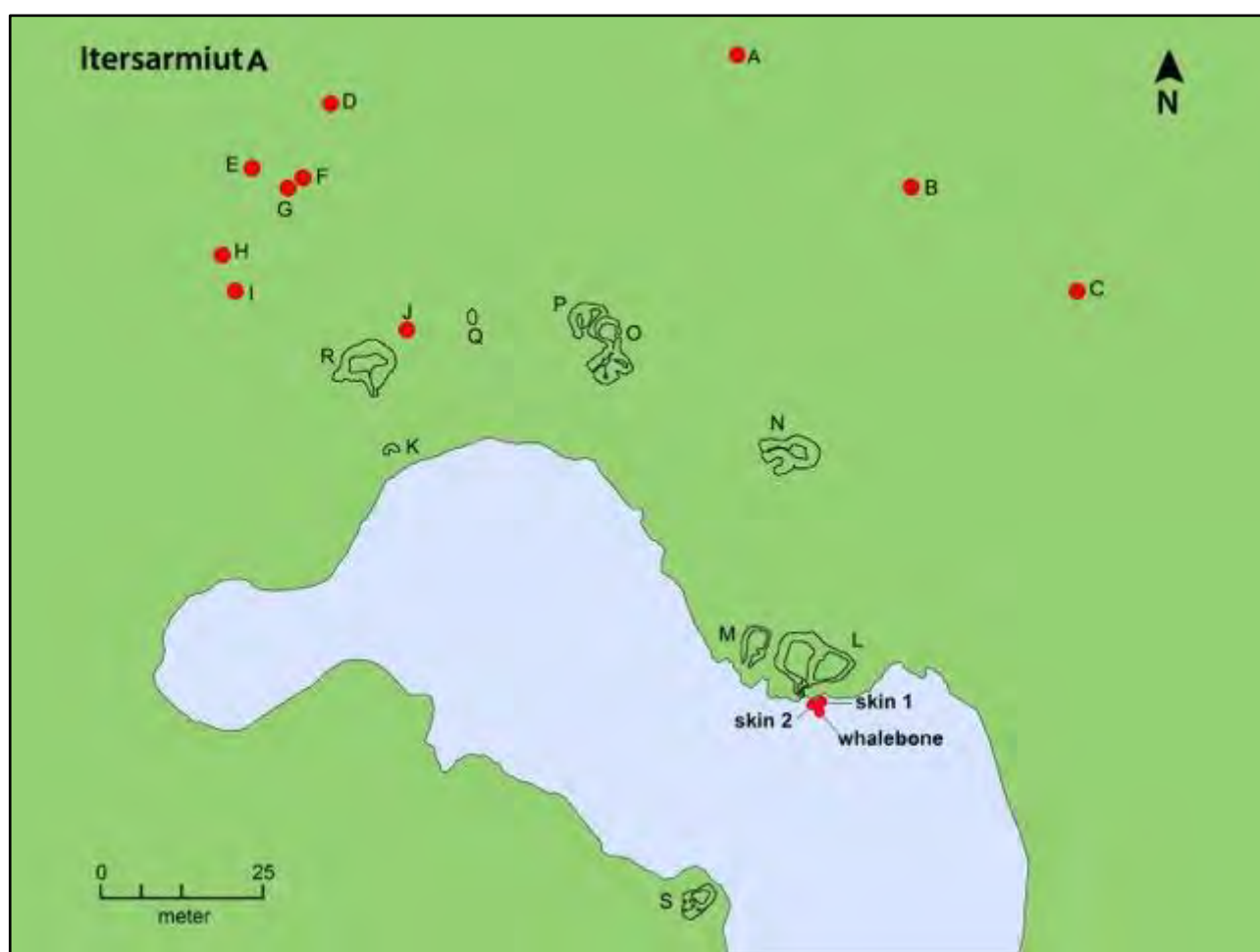


Fig. 46 Mapped structures of Itersarmiut site A. The coastline of the small cove were the settlement is situated was mapped with GPS and shows today's coastline, as it actually is.

## 6.2

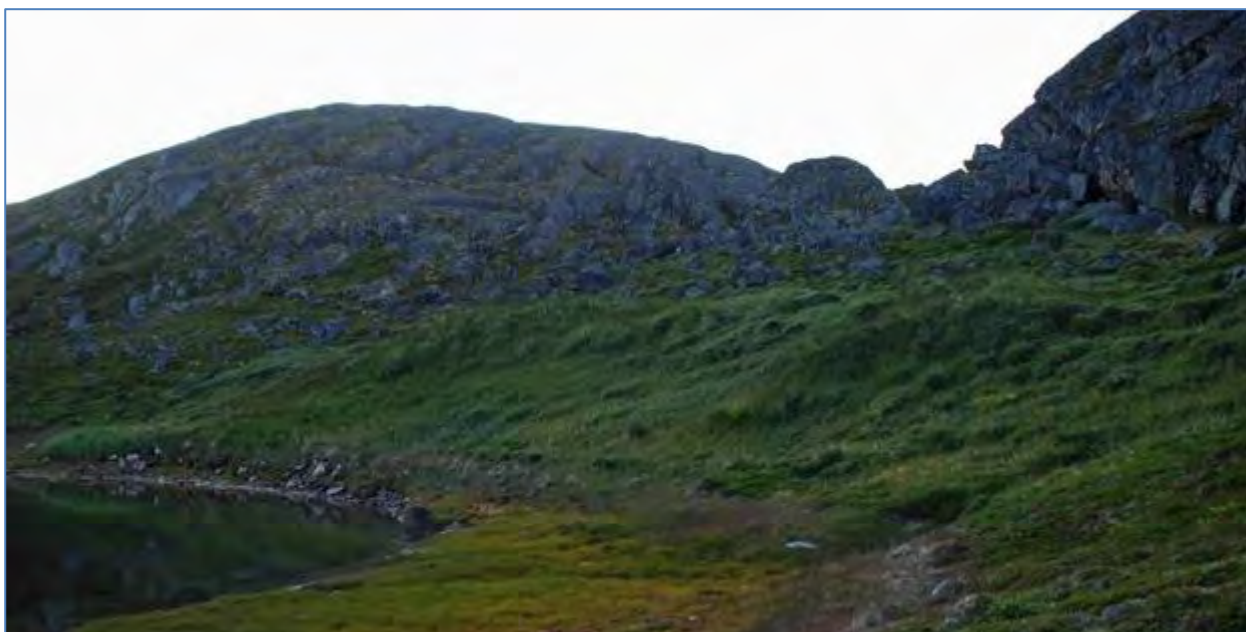
## INUIT SITES SURVEY

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## 6.2.5.1 Itersarmiut site A, qeq18A



**Fig. 47** Itersarmiut seen from above and from east. The green area by the constriction of the cove to the left in the picture is where the two houses L and M are situated and below them the midden with well-preserved organic materials. Photo: Pauline Knudsen, 2013.



**Fig. 48** Part of Itersarmiut seen from below and from west. The central area of the picture is where several winter houses are situated. Photo: Peter Toft, 2013

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Grave number	<b>18A-A</b>
Location	N63°05.575' / W050°58.682'
Dimensions	2.32 x 0.81m. Height: 0.54m
Orientation	NW - SE
Photo number	276 – 277 (NKA)
State of preservation	The grave is disturbed and the bones are decomposing
Vegetation	Most of the grave is heavily overgrown with heather. Only the stones in the ends are visible.
General description	Grave is built of stones into the bedrock. Just E of the settlement high up in the landscape. Inside the chamber some bones are visible. From the grave the view toward the sea and the archipelago to the NW are excellent.



**Fig. 49** Grave above the settlement of Itersarmiut area A. The three graves almost at the top of the hill seems older than the grave that are situated further down the hill. Photo: Pauline Knudsen, 2013.

Grave number	<b>18A-B</b>
Location	N63°05.567' / W050°58.647'
Dimensions	1.98 x 0.83m. Height: 0.16m
Orientation	NW – SE
Photo number	278 - 279 (NKA)
State of preservation	All cover stones have been removed.
Vegetation	The grave is heavily overgrown with heather.
General description	The grave is built into the bedrock toward NE. Only few stones are visible through the vegetation.

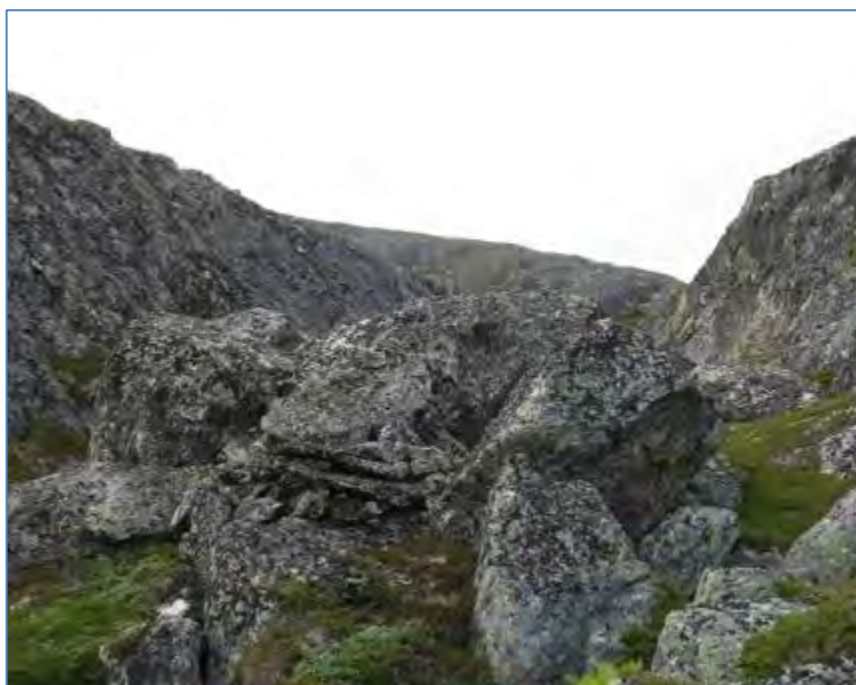


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Grave number	<b>18A-C</b>
Location	N63°05.562' / W050°58.614'
Dimensions	2.6 x 1.87m. Height inside chamber: 0.41m
Orientation	N – S
Photo number	280 - 281 (NKA)
State of preservation	The grave is disturbed and the visible bones inside the grave are decomposing.
Vegetation	The stones are heavily overgrown with lichens
General description	The grave is built upon bedrock immediately E of the settlement. The cover stones consist of big slabs. Inside the grave a cranium, tibia, fibula and femur are visible in the southern part .



**Fig. 50** Grave C is one of the graves above Itersarmiut. The grave is built on a boulder between some other boulders.  
Photo: Pauline Knudsen, 2013

Grave number	<b>18A-D</b>
Location	N63°05.565' / W050°58.753'
Dimensions	2 x 1.47m. Height: 0.9m
Orientation	NW – SE
Photo number	282 – 284 + 286 (NKA)
State of preservation	The grave is disturbed in the NW part. Bones inside the grave are decomposing.
Vegetation	Partly heavily overgrown with moss and lichens
General description	The grave is built between boulders. Five bones are visible: Four skulls and a femur.



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Grave number	<b>18A-E</b>
Location	N63°05.559' / W050°58.765'
Dimensions	E1: 2 x 0.88m. Height: 0.62m E2: 2 x 1.19m. Height: 0.53
Orientation	
Photo number	287 - 289 (NKA)
State of preservation	E1 is opened in both end and E2 is missing some cover stones.
Vegetation	Moss and lichens
General description	A grave complex established in-between two boulders. the grave chamber (E1) is situated between the boulders. The other grave (E2) or may be originally an antechamber, is situated the N side of westernmost boulder. Bone is visible in both graves. E1: a fragment of femur, a rib bone and other unidentifiable bones. E2: Three skulls.

Grave number	<b>18A-F</b>
Location	N63°05.559' / W050°58.756'
Dimensions	1.68 x 2.1m
Orientation	NW – SE
Photo number	290 - 292 (NKA)
State of preservation	Seems undisturbed, but has a hole in the southern part. The bones inside the grave are beginning to decompose.
Vegetation	Heather in patches and lichens all over
General description	In the S part of the grave five crania, part of pelvis, some e femurs, tibia and rib bones. A boulder is separating this grave from grave G

Grave number	<b>18A-G</b>
Location	N63°05.558' / W050°58.758'
Dimensions	2.1 x 1.8m
Orientation	NW – SE
Photo number	292 - 294 (NKA)
State of preservation	The grave is disturbed and there is a hole on top and in the S part. The bones inside the grave are decomposing and the surface has crumbled.
Vegetation	Heavily overgrown with moss and lichens
General description	The grave built of stones up toward a boulder that separates it from grave F. The s side is straight a, but the northern part is circular. Bones visible inside the grave: Six skulls, rib bones, a femur.

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Grave number	<b>18A-H</b>
Location	N63°05.551' / W050°58.768'
Dimensions	1.6 x 1.35m. Height: 1m
Orientation	N – S
Photo number	365 – 367 + 370 (PTO)
State of preservation	Bones not well preserved.
Vegetation	Moss inside grave chamber. Lichens on the bones in the grave.
General description	Oval grave situated under a boulder standing high in the landscape with a view to a small cove. The grave chamber is trapezoid (1.35 x 1.1m). Three bones are visible of which one is a femur. Grave I is situated next to this grave toward S.

Grave number	<b>18A-I</b>
Location	N63°05.548' / W050°58.765'
Dimensions	1.6 x 1.1m. Height: 0.75m
Orientation	
Photo number	368 - 370 (PTO)
State of preservation	Slightly collapsed chamber. A big and several smaller stones have fallen into the chamber.
Vegetation	Moss grows inside the chamber
General description	Oval grave with a rectangular chamber

Grave number	<b>18A-J</b>
Location	N63°05.548' / W050°58.733'
Dimensions	2 x 1.8 m. Height: 0.68m
Orientation	E – W
Photo number	373 - 375 (PTO)
State of preservation	Three stones had fallen to the ground on the S side.
Vegetation	Moss inside grave chamber. Lichens on the grave.
General description	Rectangular grave situated built of stones. A badly preserved humerus is visible.

**Structure K:** Small horseshoe shaped structure with the opening facing the cove. It is probably a small tent foundation. The structure is turf and stone built. Overgrown with willow, heather and grasses. Lyme grass is growing in front of the structure. Height of wall: 0.4m  
Photos: 376 – 377 (PTO)

**Structure L:** Large rectangular, communal winter house built of turf. The house is divided into two rooms with a partition in the middle of the house. May be the house initially had one big room, which has been divided into two rooms later on. The NW room has an entrance passage in the S wall leading to the cove.

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Fig. 51 A piece of skin which have eroded out to the beach. Photo: Peter Toft



Fig. 52 An artifact made of whalebone. Notice the serrated edge - a sign of the use of drill bow for cutting pieces of bone. Photo: Peter Toft, 2013



Fig. 53 Part of the eroded profile below structures L and M . notice the pieces of wood and bones. The photographe areas cover approximately 1 x 1,5 m. Photo: Pauline Knudsen, 2013

**Structure M:** Four sided winter house built of turf. The two entrances are on the S side of the house. Benches along W and N wall are partly eroded. East of the entrances is a cooking niche. Walls are preserved up to 0.63m. A lamp support stone is in the eastern part of the living room. The house is situated next to a slope leading to the cove. The house is overgrown with heather and grasses. The kitchen midden is situated W of the house and is overgrown with lyme grass. The midden that is eroded by the sea has a high content of seal bones and other animal bones. Some wood can also be seen. The surface of the wood has decomposed, but the heartwood seems to be well preserved.

Photos: 686 – 689 (PTO)



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**Structure N:** Circular house built of stones. The house has an entrance on the W side. On the same side to the S is a storeroom. The room inside the house is almost cloverleaf shaped. Maximum height of walls: 0.67. Natural occurring boulders are included in the storeroom structure. The structure is overgrown with willow and heather.

Photos: 690 – 695 (PTO)

**Structure O:** Round winter house structure. The house has a storeroom in the front, which have its own entrance.

Photos: 696 – 698 (PTO)



**Fig. 54** Round winter house (O) with a niche in the front wall and entrance passage to the right.

Photo: Peter Toft, 2013.

**Structure P:** Trapezoid winter house built of stones. The house has two rooms and a house passage to the south. The structure is built into the W wall of structure O. Walls are preserved up to 0.7m. The well-preserved structure is heavily overgrown with willows.

Photos: 699 (P)

**Structure Q:** Oval structure made of stones. Walls preserved up to 0.8m. Heavily overgrown with grasses and willow. Well preserved.

Photos: 700 – 7001 (PTO)

**Structure R:** Rectangular communal house built of turf. The entrance is on the S side. The walls to E and W are heavily decomposed. The walls are preserved up to 0,4m. Heavily overgrown with willows and heather. Not well preserved.

Photos:

**Structure S:** Probably an almost trapezoid tent foundation. It is difficult to interpret as the structure is heavily overgrown with lyme grass. The northwestern part might be interpreted as the entrance with a cooking niche or a storeroom.



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The observations made at Itersarmiut site A are summarized in table 6.6.

<b>Site</b>	Qeq18A
Site name	Itersarmiut site A
Museum ref	63V2-III-3
Date visited	August 13 <sup>th</sup> , 15 <sup>th</sup> & 18 <sup>th</sup> , 2013
<b>Location</b>	
N/W (from handheld GPS, ddd.mm.mmm; WGS84)	N63°05.548' / W050°58.733'
Altitude	1 – 59m
Surroundings	Situated around a small cove on an island by the coast. The cove is almost like a lacuna. The constriction that makes the entrance to the cove dries up at low tide and indicates that the cove once might have been a lake. The north side of the cove is a small headland that makes a hill. To the east and south the land rises and make some quit steep slopes. To southeast there is a pass with boulders.
<b>Description</b>	
Site	The dwelling structures are distributed along the shore of the cove mainly at two levels: just above the beach or 15 – 20 meter above the beach. The graves are situated in the southeastern part from 25 m up to 70 m above sea level. Two graves situated highest lie above the settlement to the south. The rest to southeast between boulders in the pass and below this area.
Midden dimensions	The remaining midden is situated under the dwelling structure L and M. The sea has probably taken a great share of the midden, as it is usually situated in front of the entrances of the dwellings. The entrances at M and L are already lost. Probably the middens visible under the structures are middens from former occupations than the houses L and M. Middens might be buried under the vegetation below dwellings N, O, P and R
Maximum depth	
Vegetation	Grasses, moss, willow, heater and lichens.
Outline	
Photos	No 226 – 231 (NKA) and 365 - 378 (PTO)
<b>Measurements during visit</b>	
Thaw depth	
Soil temperature	
Water content	
Conductivity	
pH	
Organic content	Wood, bones and skin
Other (ground water level,	
<b>State of preservation</b>	Some of the wood is chapped on the surface but seem to be well

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	preserved under the surface. Many of the wooden artifact and the bone are well preserved. It was even possible to find skin on the beach that must have eroded out from the midden.
Buildings/site structure	On the site was mapped 10 graves and 8 dwelling structures
Disturbance	Limited human disturbance. Structures by the beach are being eroded.
<b>Midden contents:</b>	
Volume excavated during visit	
Animal droppings	
Textile	Most likely
Wood	Yes
Bone	Yes
Turf	Yes
Other	
State of preservation, in brief	
<b>Samples taken during visit</b>	Two pieces of skin and a whalebone artifact
<b>Research potential</b>	The dwellings and finds on the site indicate a long occupation period from precontact times to the historic period. A very interesting period where the transition from an almost solely Inuit lifestyle to a gradually increased mix of Inuit and European cultures occurred and where the climate changed.
Undisturbed remains?	The dwelling structures seems undisturbed
Density of finds	The part of the midden that is exposed due to erosion showed finds of several artifact, like skin, whalebone fragments of soapstone pots and lamps. The well-preserved condition of the organic materials makes the midden below L and M extraordinary.
Areas of research	Historical archaeology and burial customs
<b>Outreach potential</b>	Some outreach potential: the structures are easy to see. However, there are not many visitors here.
<b>Threats (ongoing/expected)</b> - 1st estimate based on brief visit	A big share of the dwelling structures and the midden has already eroded out to the sea.
Erosion from water/ice, including erosion from waves, boat-traffic, and freshwater	Dwellings L, M K and S are severely threatened by erosion from the sea. The majority of the graves and dwelling structures N, O, P and Q above the sea level and are not threatened by erosion from sea.
Other erosion (wind, animals, visitors)	Foxes might disturb the graves with openings big enough for a fox to penetrate.
Vegetation, roots	The vegetation seems to protect the grave structures.
Drainage	The graves and traps seems to be well drained
Melting, heating	

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Soil movement (including creeping, cryoturbation, slide)	
Decay of organic materials	
Other threats	
Future threats?	
<b>Comparison to earlier descriptions</b>	
<b>Monitoring</b>	
Already initiated	
Suggested	
<b>Important unknowns/ research needed</b>	
<b>Mitigation</b>	
Erosion protection	
Rescue excavation	Recommended
<b>Field worker</b>	PTO, PKK, PØ, KM

### 6.2.5.2 Itersarmiut site B

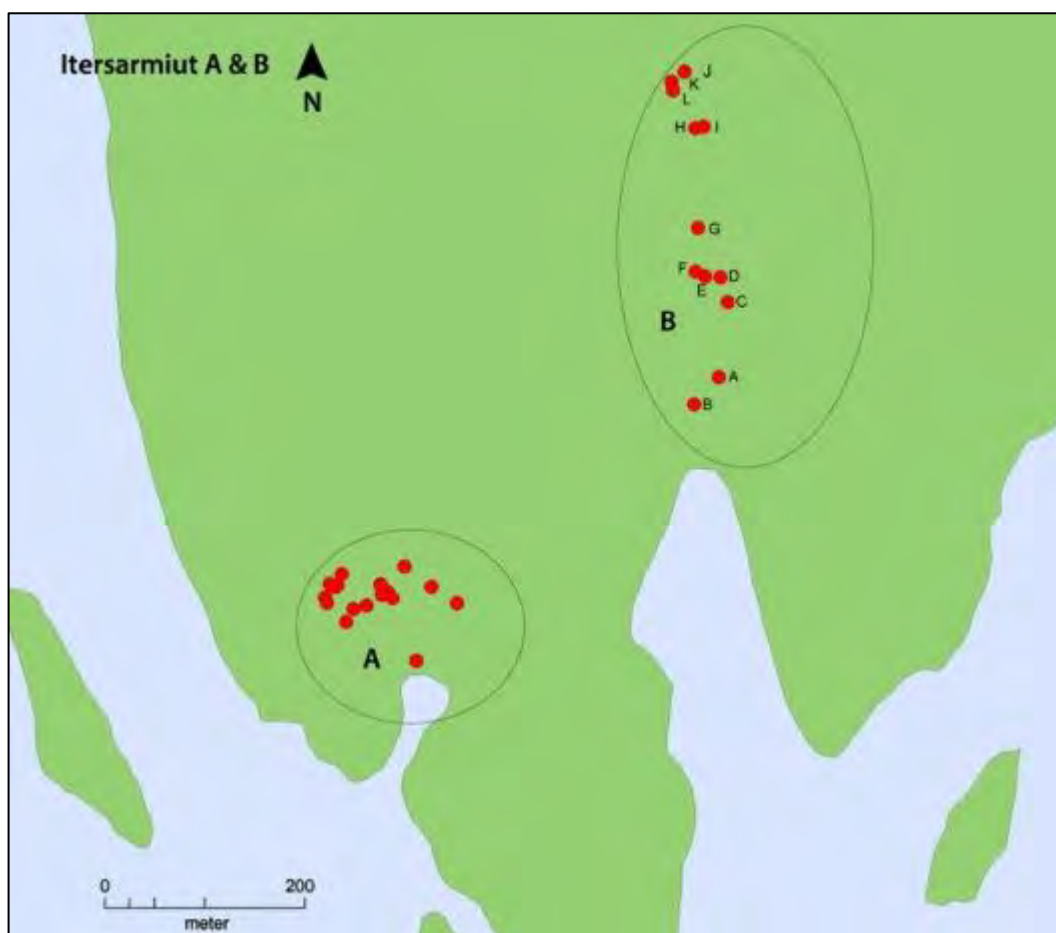


Fig. 55 Map of Itersarmiut sites A and B.

As the survey team surveyed site A and the graves above the settlement our guide HHB took a longer walk NE of the settlement and discovered a grave and fox traps in a valley that leads toward north from the cove east of Itersarmiut A, settlement area. A further survey revealed one more grave, a cache and more fox traps.



Fig. 56 Overview Itersarmiut site B. Photo: Peter Toft, 2013



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**Qeq18B – A:** Rectangular grave built below the overhang of a boulder. The wall is built of big stones. E – W oriented. The W end of the grave is rounded. The grave is situated high in the landscape with a view toward the cove to NW. Inside the chamber bones are visible: a cranium, seven rib bones, one mandible, one humerus, one radius, one fibula, one tibia, two femur, one intact pelvis, three cervical vertebrae and three digits manus. The grave is slightly disturbed maybe by a fox. One stone in the front part is missing. The bones are only partly positioned in situ, but several bone are not anatomically correct positioned. The bones are well preserved. The stones are overgrown with lichens.

Measurements, exterior: 2.3 x 1.5m. Inside the chamber: 1.6 x 0.88m

Location: N63°05.706' / W050°58.359'

Photos: 321 - 332 (PTO)



Fig. 57 Grave A under a boulder at Itersarmiut site B. Photo: Peter Toft, 2013

**Qeq18B-B:** Collapsed fox trap E – W oriented.

Measurements: 1.05 x 0.7m

Location: N63°05.689' / W050°58.382'

Photos: 335 (PTO)

**Qeq18B-C:** Collapsed fox trap. SE – NW oriented.

Measurements: 1.3 x 0.85m

Location: N63°05.747' / W050°58.364'

Photos: 336 (PTO)

**Qeq18B-D:** Well-preserved fox trap E – W oriented.

Measurements: 1.47 x 1.1m

Location: N63°05.759' / W050°58.379'

Photos: 337 (PTO)

**Qeq18B-E:** Cache under a large boulder. The cache has a wall built of big stones. The cache comprises a room 1.7 x 0.4m. Height of wall: 0.6m. Under the same boulder there are additionally

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3 more but smaller storerooms. Two on the western side 1.3 x 2.6m and 2.1 x 1.7m). In front of those there is a low wall, which is overgrown with willow, heather and grass. The cache on the southern side got the measures: 2.1 x 1.3m. In this cache well-preserved seal bone can be found  
Location: N63°05.758' / W050°58.397'

Photos: 338: The northern cache. 339: The interior of the northern cache. 340 – 341: The northernmost of the caches on the west side. 342: The southernmost of the caches on the west side. 343 – 344: The southernmost cache. Pictures are taken by PTO.



**Fig. 58** One of the caches blow a boulder that has a complex of caches. Photo: Peter Toft, 2013.

**Qeq18B-F:** Well-preserved fox trap overgrown with lichens. All cover stones are undisturbed. The opening faces east.

Measurements: 1,14 x 1,15m

Location: N63°05.760' / W050°58.409'

Photos: 347 - 348 (PTO)

**Qeq18B-G:** Fox trap, the cover is preserved, but few stones have fallen to the ground by the entrance. The trap is overgrown with lichens.

Measurements: 1,1 x 0,8m. Height by entrance: 0,5m.

Location: N63°05.783' / W050°58.416'

Photos: 349 - 350 (PTO)

**Qeq18B-H:** Collapsed fox trap, entrance facing W.

Measurements: 1.3 x 0.7m

Location: N63°05.835' / W050°58.441'

Photos: 351 - 352 (PTO)



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Fig. 59 Demolished fox trap at Itersarmiut site B. Photo: Peter Toft, 2013.

**Qeq18B-I:** Collapsed fox trap, entrance facing W.

Measurements: 1,25 x 2,2m

Location: N63°05.837' / W050°58.431'

Photo: 353 - 354 (PTO)

**Qeq18B-J:** Well-preserved fox trap. The trap is overgrown with lichens. Entrance facing toward southwest.

Measurements: 1,05 x 0,8m. Height by entrance: 0,47m

Location: N63°05.864' / W050°58.466'

Photos: 358 - 359 (PTO)

**Qeq18B-K:** Well-preserved fox trap overgrown with lichens. Entrance facing southwest.

Location: N63°05.857' / W050°58.478'

Photos: 361 - 362 (PTO)

**Qeq18B-L:** Circular, badly disturbed grave overgrown with lichens. Three stones have fallen out of the structure which is situated high in the landscape with a view to a small cove situated at southwestern part of the island. A round bone can be seen in the interior of the grave.

Diameter: 1,83m

Location: N63°05.853' / W050°58.475'

Photos: 363 - 364 (PTO)

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The observations made at Itersarmiut site B are summarized in table 6.7.

<b>Site</b>	Qeq18B
Site name	Itersarmiut site B
Museum ref	63V2-III-3
Date visited	August 13 <sup>th</sup> , 15 <sup>th</sup> & 18 <sup>th</sup> , 2013
<b>Location</b>	
N/W (from handheld GPS, ddd.mm.mmm; WGS84)	N63°05.758' / W050°58.397'
Altitude	6 – 60 m
Surroundings	The valley is the continuation of the small bay that is N – s oriented. Toward west a steep mountain delimits it and to the east some lower not as steep hills. Boulder field are strewn on the western slopes. The valley is lush and green especially the northern part of the valley that seem to be a kind of marshy. The valley is intersected with some small creeks in the N – S direction. The lower part of the valley (the southern part) has some plain sandy areas.
<b>Description</b>	
Site	The site is probably mainly for storing food for the inhabitants of Itersarmiut settlement area A.
Midden dimensions	No midden observed
Maximum depth	
Vegetation	Grasses, moss, willow, heather and lichens.
Outline	
Photos	321 - 364 (PTO)
<b>Measurements during visit</b>	
Thaw depth	
Soil temperature	
Water content	
Conductivity	
pH	
Organic content	
Other (ground water level,	
<b>State of preservation</b>	
Buildings/site structure	The structures in the valley comprises two graves a complex of caches below a boulder and nine fox traps
Disturbance	Limited human disturbance. Stones from some of the older fox traps have probably been reused in construction in new ones.
<b>Midden contents:</b>	
Volume excavated during visit	
Animal droppings	
Textile	



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Wood	
Bone	
Turf	
Other	
State of preservation, in brief	
<b>Samples taken during visit</b>	
<b>Research potential</b>	The site must be studied in combination with Itersarmut site A, because it is probably a food storing place and burial place for site A
Undisturbed remains?	The graves seem disturbed and stones from older fox traps have been reused in new ones.
Density of finds	
Areas of research	Historical archaeology and burial customs
<b>Outreach potential</b>	Some outreach potential: the structures are easy to see. However, there are not many visitors here.
<b>Threats (ongoing/expected)</b> - 1st estimate based on brief visit	
Erosion from water/ice, including erosion from waves, boat-traffic, and freshwater	
Other erosion (wind, animals, visitors)	
Vegetation, roots	
Drainage	
Melting, heating	
Soil movement (including creeping, cryoturbation, slide)	
Decay of organic materials	
Other threats	
Future threats?	
<b>Comparison to earlier descriptions</b>	
<b>Monitoring</b>	
Already initiated	
Suggested	
<b>Important unknowns/ research needed</b>	

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<b>Mitigation</b>	
Erosion protection	
Rescue excavation	
<b>Field worker</b>	PTO, PKK, PØ, KM

## 6.2.6 Qassimiut, qeq20

Qassimiut is situated on one of the westernmost small islands in the group of skerries SW of Qeqertarsuaat. It is situated in a small bay on the eastern side of the island. It might have been a seasonal site for hunting migrating seals in the spring, which the four tent foundations indicate. The large communal house might be a winter house for people from south on trading journeys during the period of 1600 and 1800 AD. A single grave situated above the tent foundations is also mapped. The communal house is built at the head of the bay and the four tent foundations are except from F, built side by side are situated 100 – 200 m SW of the house just above the beach.



Fig. 60 Overview of the Qassimiut site. Photo: Peter Toft, 2013

**Qeq20A:** Large communal house. Turf and stone built. The gables are S – N oriented. The house is divided into two rooms a big room to S and a small to N. In the wall dividing the rooms there is a raised passage. The southern part of the E wall have been eroded by the sea, making a heap of building material in front of the opening. The heap in front of the house leading down to the fjord is, as the rest of the structure, heavily overgrown. The sea has eroded the house passage, which most likely might have been located in the missing part of the E wall. Modern waste and wooden planks are to be found inside and outside the house. As an example one can mention pieces of tarp and plywood.

Measurements: 14 x 7m.

Location: N62°58.885' / W050°45.251'

Photos: 253 - 255 (NKA)

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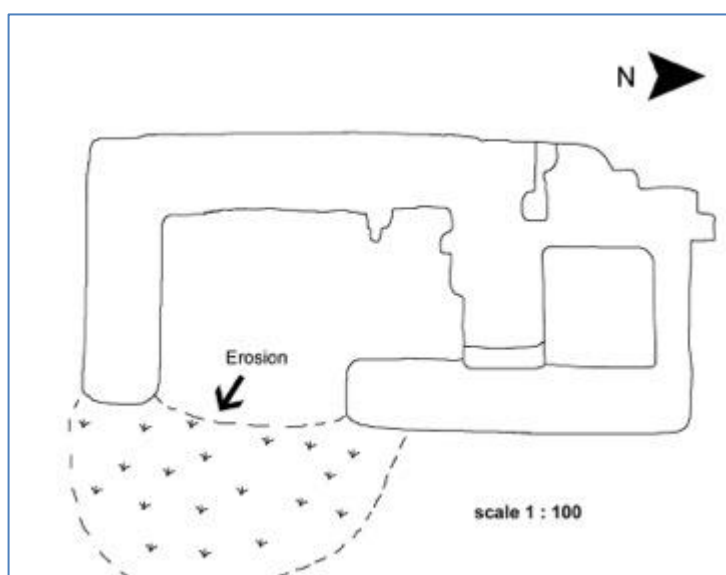


Fig. 61 Communal winter house at Qassimiut.

**Qeq20B:** Turf and stone built tent foundation. The structure is our sided with an entrance toward E, is situated 3 meter N of C and 1m from the eroding edge just above the beach. Overgrown with heather and grasses.

Measurements: 2.5 x 4.5m

Location: N62°58.873' / W050°45.233'

Photos: 260 – 263 (NKA)

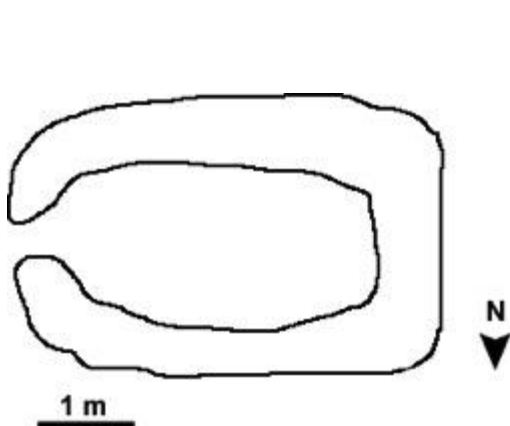


Fig. 62 Tent foundation B

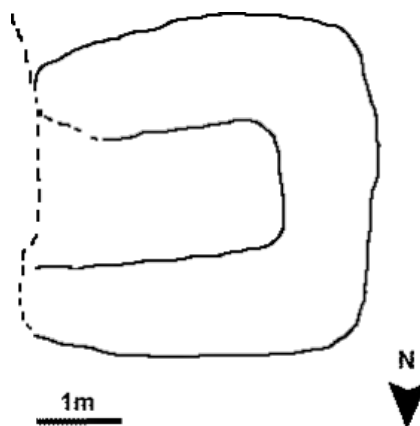


Fig. 63 Tent foundation C

**Qeq20C:** Tent foundation u shaped, opening toward E. Built of turf and stones. Overgrown with heather and grasses. NE wall is being eroded.

Measurement: 4.5 x m

Location: N62°58.868' / W050°45.229'

Photos: 264 – 267 (NKA)

**Qeq20D:** Big circular grave situated on a small hill 5 – 6m W of four tent foundations situated by the beach SW of the communal house. The grave is built of slabs against a boulder. Seems undisturbed, except fro one cover stone, which might have been moved. All stones are overgrown

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with lichens. The grave is also partly slightly overgrown with moss. Four skulls and a femur can be seen through the crevices.

Diameter: ca. 2 m

Location: N62°58.869' / W050°45.245'

Photos: 256 + 257 (NKA)

**Qeq20E:** Small oblong grave or an antechamber. The cover stones have fallen into the chamber and some are lie immediately W of the chamber. All stones are overgrown with lichens.

Measurements: 1.8 x 0.6m.

Location: N62°58.868' / W050°45.244'

Photos: 258 + 259 (NKA)



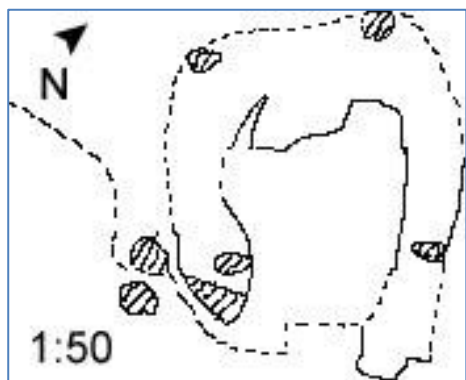
**Fig. 64** Grave E. The antechamber is situated behind the grave to the right. Photo: Pauline Knudsen, 2013.

**Qeq20F:** Turf and stone built tent foundation. Barely discernable in the vegetation. The structure is situated 40 cm S of C. Overgrown with heather and grasses. The SE wall is being eroded.

Measurements: 2.8 x 2.14m

Location: N62°58.868' / W050°45.229'

Photos: 254 – 256 (NKA)



**Fig. 65** drawing of tent foundation F



**Fig. 66** Photo of tent foundation F. At high tide the sea is reaching the structure. Photo Pauline Knudsen, 2013



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**Qeq20G:** Presumed tent foundation situated next to foundation C on the E side. SSE part of the structure has been eroded by the sea. Completely overgrown with grasses, heather, willows and moss.

Measurements: 5.6 x 2.6m

Location: N62°58.870' / W050°45.230'

Photos: 268 - 269 (NKA)

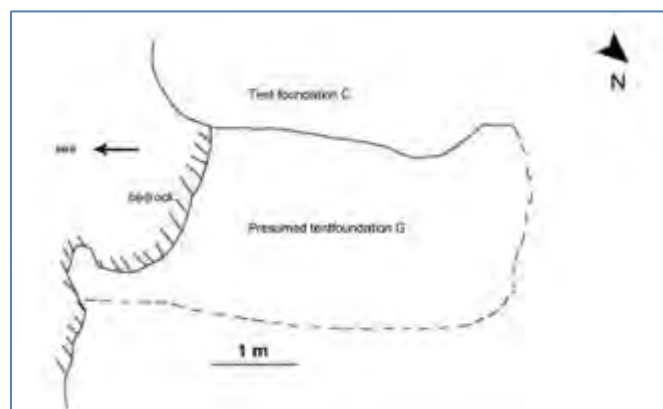


Fig. 67 Drawing of tent foundation G

The observations made at Qassimiut are summarized in table 6.8.

<b>Site</b>	Qeq20
Site name	Qassimiut
Museum ref	63V1-IV-16
Date visited	August 13 <sup>th</sup> & 14 <sup>th</sup> , 2013
<b>Location</b>	
N/W (from handheld GPS, ddd.mm.mmm; WGS84)	N62°58.873' / W050°45.233'
Altitude	1 - 20m
Surroundings	The site is situated on one of the westernmost skerries SW of Qeqertarsuatsiaq, on the eastern side of the island in a small bay.
<b>Description</b>	
Site	The site is situated just above the beach.
Midden dimensions	No midden observed
Maximum depth	
Vegetation	Grasses, moss, willow, heater and lichens.
Outline	The communal house is situated at the head of a small bay the tent foundations are also built just above the beach some 50 – 100 meters W of the house. The burial is just above the foundations
Photos	258 – 269 (NKA)
<b>Measurements during visit</b>	
Thaw depth	
Soil temperature	
Water content	
Conductivity	
pH	
Organic content	
Other (ground water level,	

## 6.2

## INUIT SITES SURVEY

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<b>State of preservation</b>	
Buildings/site structure	1 communal winter house, 4 tent foundation and 1 grave
Disturbance	Limited human disturbance.
<b>Midden contents:</b>	
Volume excavated during visit	
Animal droppings	
Textile	
Wood	
Bone	
Turf	
Other	
State of preservation, in brief	
<b>Samples taken during visit</b>	
<b>Research potential</b>	
Undisturbed remains?	All the structures seems undisturbed
Density of finds	
Areas of research	Historical archaeology, Inuit trading journeys along the west coast of Greenland between years 1650 - 1750 , and burial customs.
<b>Outreach potential</b>	Some outreach potential: the structures are easy to see. However, there are not many visitors here.
<b>Threats (ongoing/expected)</b> - 1st estimate based on brief visit	
Erosion from water/ice, including erosion from waves, boat-traffic, and freshwater	The dwelling structures are actively being eroded by the sea
Other erosion (wind, animals, visitors)	
Vegetation, roots	
Drainage	
Melting, heating	
Soil movement (including creeping, cryoturbation, slide)	
Decay of organic materials	
Other threats	
Future threats?	
<b>Comparison to earlier descriptions</b>	

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## INUIT SITES SURVEY

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<b>Monitoring</b>	
Already initiated	
Suggested	
<b>Important unknowns/ research needed</b>	
<b>Mitigation</b>	
Erosion protection	Too late
Rescue excavation	
<b>Field worker</b>	PTO, PKK, PØ, KM

## 6.2.7 Piipimiit, qeq21

On the way to Qassimiut this site was observed on one of the westernmost skerries. The structures on the site comprised the remains of what was interpreted as one communal house and four graves. The rest of the island was not surveyed.

**Structure A:** A communal winter house. Interpreting the house is difficult because it is heavily overgrown with lyme grass and because the sea have eroded the structure from all directions, but from north. The house is built into the cliff to the west. A narrow passage on the s side is interpreted as a house passage.

Location: N62° 58.513 / W050° 44.589

Photos: 233 – 242 (NKA)

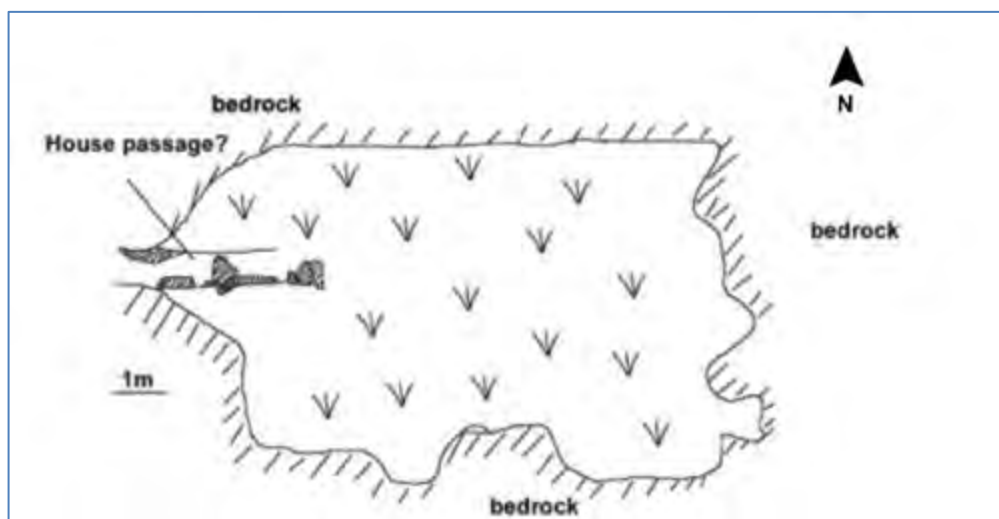


Fig. 68 Drawing of a structure A, interpreted as a communal winter house.

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## INUIT SITES SURVEY

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Fig. 69 Communal winter house at Piipimiit seen from north, Photo: P. Toft, 2013



Fig. 70 Presumed entrance of communal house. Photo: Peter Toft, 2013



Fig. 71 Part of the erode profile to SW. Below the stone to the left a skull from a hooded seal is visible. Photo: Peter Toft 2013

<b>Grave number</b>	<b>B</b>
<b>Location</b>	N62°58.527' / W050°44.569'
<b>Altitude</b>	
<b>Dimensions</b>	2.57 x 1.35 m Height: 0,95m
<b>Orientation</b>	NE - SW
<b>Photo number</b>	247 - 248 (PTO)
<b>State of preservation</b>	Some stones have collapsed in the NE part of the structure and a stone have been removed on the east side.
<b>Vegetation</b>	Some lichens on the stones.
<b>General description</b>	Made of stones and rectangular. Situated on the east side of a rock outcrop. There might be one more grave or a fox trap just to the south of the grave. A cranium is visible inside the structure.



## 6.2

## INUIT SITES SURVEY

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<b>Grave number</b>	<b>C</b>
<b>Location</b>	N62°58.529' / W050°44.565'
<b>Altitude</b>	
<b>Dimensions</b>	5.75 x 1.7m. height. 0.8m
<b>Orientation</b>	NE - SW
<b>Photo number</b>	246 + 249 – 251 (PTO)
<b>State of preservation</b>	
<b>Vegetation</b>	
<b>General description</b>	Double grave made of stones, rectangular with rounded corners. The two graves are built end to end on the eastern side of the bedrock, which make the western side of the westernmost grave. Some bones and two craniums are visible inside the grave.

<b>Grave number</b>	<b>D</b>
<b>Location</b>	N62°58.531' / W050°44.564'
<b>Altitude</b>	
<b>Dimensions</b>	3.5 x 2.2m. height. 0.52m
<b>Orientation</b>	E - W
<b>Photo number</b>	244 + 246 + 252 – 253 (PTO)
<b>State of preservation</b>	
<b>Vegetation</b>	
<b>General description</b>	Grave made of stones with an outline as a trapeze. Situated by grave C. It is possible to look into the grave from W and E. Visible bones: two humerus, ribs, an ulna and some vertebra.

<b>Grave number</b>	<b>E</b>
<b>Location</b>	N62°58.539' / W050°44.574'
<b>Altitude</b>	
<b>Dimensions</b>	2.5 x 2m. height: 0.55m
<b>Orientation</b>	N - S
<b>Photo number</b>	244 + 254 – 256 (PTO)
<b>State of preservation</b>	
<b>Vegetation</b>	None
<b>General description</b>	Grave made of stones with an outline as a trapeze. A cranium is visible inside the southern part of the chamber. The grave is situated above graves B, C and D.

## 6.2

## INUIT SITES SURVEY

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The observations made at Piipimiit are summarized in table 6.9.

<b>Site</b>	Qeq21
Site name	Piipimiit
Museum ref	62V2-III-15
Date visited	August 14 <sup>th</sup> , 2013
<b>Location</b>	
N/W (from handheld GPS, ddd.mm.mmm; WGS84)	N62° 58.513 / W050° 44.589
Altitude	
Surroundings	
<b>Description</b>	
Site	The site comprises a winter house and four graves
Midden dimensions	No midden already eroded into the sea
Maximum depth	
Vegetation	Grasses, moss, willow, heater and lichens.
Outline	
Photos	233 – 242 (NKA) and 247 - 256 (PTO)
<b>Measurements during visit</b>	
Thaw depth	
Soil temperature	
Water content	
Conductivity	
pH	
Organic content	
Other (ground water level,	
<b>State of preservation</b>	
Buildings/site structure	A presumed communal winter house and four graves
Disturbance	Relatively undisturbed
<b>Midden contents:</b>	
Volume excavated during visit	
Animal droppings	
Textile	
Wood	
Bone	
Turf	
Other	
State of preservation, in brief	
<b>Samples taken during visit</b>	A piece of charcoal from the E side erosion profile

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## INUIT SITES SURVEY

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<b>Research potential</b>	
Undisturbed remains?	Seems undisturbed
Density of finds	
Areas of research	Historical archaeology, burial customs and Inuit trading journeys
<b>Outreach potential</b>	Some outreach potential: the structures are easy to see. However, there are not many visitors here.
<b>Threats (ongoing/expected)</b> - 1st estimate based on brief visit	
Erosion from water/ice, including erosion from waves, boat-traffic, and freshwater	
Other erosion (wind, animals, visitors)	
Vegetation, roots	
Drainage	
Melting, heating	
Soil movement (including creeping, cryoturbation, slide)	
Decay of organic materials	
Other threats	
Future threats?	
<b>Comparison to earlier descriptions</b>	
<b>Monitoring</b>	
Already initiated	
Suggested	
<b>Important unknowns/ research needed</b>	
<b>Mitigation</b>	
Erosion protection	
Rescue excavation	
<b>Field worker</b>	PTO, PKK, PØ, KM

## 6.2

## INUIT SITES SURVEY

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## 6.2.8 Natersuarmiut, qeq22

The site is situated at the head of a protected cove on the eastern side of one of the small islands making the archipelago south of the island of Qeqertarsuatsiaq. The name, Natersuarmiut, which in the Greenlandic means: "Those who live by the hooded seals" indicates that the site have been used as a seasonal occupation, during the time where hooded seals migrate. According to Bobé (1921) the site was inhabited in the late 18<sup>th</sup> century, as families was relocated from Qeqertarsuatsiaat after an epidemic in 1782.



Fig. 72 Overview of the site of Natersuarmiut. Photo: Pauline Knudsen, 201.



Fig. 73 Map of structures at Natersuarmiut

**Qeq22A:** Circular store-room build of stones around some boulders.

Location: N62°59.781' / W050°43.212'  
Photo numbers: 271 – 272 (NKA)

**Qeq22B:** Circular, double storeroom build of stones. Some boulders are included in the structure.

Location: N62°59.780' / W050°43.200'  
Photo numbers: 273 – 275 (NKA)



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## INUIT SITES SURVEY

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**Qeq22C:** U-shaped cache built of stones. Heavy overgrown. Entrance on the SE side. Later on the structure have been used as a cache.

Location: N62°59.778' / W050°43.205'

Photo numbers: 276 – 277 (NKA)



**Fig. 74** Two tent foundation at Natersuarmit. Photo: Pernille Ødegaard, 2013.

**Qeq22D + E:** Two horseshoe shaped tent foundations. The two structures share the wall between them. Structure E has a cooking niche to the SW in the entrance.

Location: D: N62°59.769' / W050°43.206' and E: N62°59.770' / W050°43.205'

Photo numbers: 278 - 280 (NKA)

**Qeq22F:** A trapeze shaped winter house. The house passage is on the NW side of the house. A cooking-niche placed on the N side of the passage.

Location: N62°59.756' / W050°43.117'

Photo numbers: 281 – 284 (PTO)

**Qeq22G:** An unidentifiable structure on the SE side of structure F. It might be a winter house where the north side has been eroded by the sea.

Location: N62°59.757' / W050°43.184'

Photo numbers: 285 – 286 (PTO)

**Qeq22H:** A U-shaped tent foundation. Part of the wall on the SE side is missing.

Location: N62°59.761' / W050°43.170'

Photo numbers: 287 – 288 (PTO)

**Qeq22I:** A ruin of a cabin made of wood. It is encircled by turf wall. Probably the cabin is build inside the ruin of a earlier winter house. The entrance with a passage is placed on the E side of the structure. Most of the timber has collapsed into the room. The turf the heavily overgrown with grass and the timber is overgrown with gray and orange lichens.

Location: N62°59.770' / W050°43.165'

Photo numbers: 289 – 292 (PTO)

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## INUIT SITES SURVEY

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**Fig. 75** Wooden cabin, probably built inside the ruin of a communal winter house. Photo: Peter Toft, 2013.

**Qeq22J:** Trapezoid tent foundation. The entrance is to the west. The structure is heavily overgrown with grass.

Location: N62°59.767' / W050°43.157'

Photo numbers: 293 - 294 (PTO)

**Qeq22K:** The quadrangular structure, probably build from turf and stones and overgrown with grass and more limited with willows is hard to interpret. It probably has an entrance and passage to the SE.

Location: N62°59.771' / W050°43.169'

Photo numbers: 297 - 299 (PTO)

**Qeq22L:** The outline of big, quadrangular structure can be seen in the vegetation of grass.

Measurements approximately 5 x 3,5m.

Location: N62°59.764' / W050°43.148'

Photo numbers: 295 - 296 (PTO)

**Qeq22M:** Probably a cache built of stones into the bedrock and a boulder.

Location: N62°59.882' / W050°43.179'

Photo numbers: 302 - 303 (PTO)



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## INUIT SITES SURVEY

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**Fig. 76** A storeroom or cache at Natersuarmiut. Photo: Peter Toft, 2013.

**Qeq22N:** A grave build of stones in-between protruding bedrock.

Location: N62°59.824' / W050°43.188'

Photo numbers: 300 - 301 (PTO)

**Qeq22O:** A grave build in-between protruding bedrocks. The structure that at first sight looks like a big grave consists of two grave build side by side. O is the easternmost grave and has a big angular slab as a cover stone.

Location: N62°59.825' / W050°43.193'

Photo numbers: 304 - 305 (PTO)

**Qeq22P:** A grave build in-between protruding bedrocks. The structure that at first sight looks like a big grave consists of two grave build side by side. P is the westernmost grave.

Location: N62°59.825' / W050°43.193'

Photo numbers: 304 - 305 (PTO)

**Qeq22Q:** Grave

Location: N62°59.823' / W 050°43.195'

Photo numbers: 340 + 341 (Kirstine)

**Qeq22R:** Grave

Location: N62°59.780' / W 050°43.337'

Photo: 343 (Kirstine)

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## INUIT SITES SURVEY

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**Qeq22S:** Grave

Location: N62°59.784' / W 050°43.356'

Photo numbers: 343 - 344 (Kirstine)

**Qeq22T:** Grave

Location: N62°59.781' / W 050°43.434'

Photo: 345 - 346 (Kirstine)



**Fig. 77** Grave O at Natersuarmiut. Photo: Peter Toft, 2013.

The observations made at Natersuarmiut summarized in table 6.10.

<b>Site</b>	Qeq22
Site name	Natersuarmiut
Museum ref	62V1-IV-18
Date visited	August 13 <sup>th</sup> & 14 <sup>th</sup> , 2013
<b>Location</b>	
N/W (from handheld GPS, ddd.mm.mmm; WGS84)	N62°59.770' / W050°43.165'
Altitude	
Surroundings	
<b>Description</b>	
Site	The site is situated in a protected bay on the SE part of one of the skerries SW of Qeqertarsuatsiaq
Midden dimensions	No midden observed
Maximum depth	
Vegetation	Grasses, moss, willow, heater and lichens.



## 6.2

## INUIT SITES SURVEY

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Outline	
Photos	NKA 267 – 271 (NKA) and 257 - 319 (PTO)
<b>Measurements during visit</b>	
Thaw depth	
Soil temperature	
Water content	
Conductivity	
pH	
Organic content	
Other (ground water level,	
<b>State of preservation</b>	
Buildings/site structure	2 house structures, 4 tent foundations, 2 caches , 2 storerooms , 7 graves and 2 unidentifiable structure
Disturbance	
<b>Midden contents:</b>	
Volume excavated during visit	
Animal droppings	
Textile	
Wood	
Bone	
Turf	
Other	
State of preservation, in brief	
<b>Samples taken during visit</b>	
<b>Research potential</b>	
Undisturbed remains?	The structures seem quite undisturbed
Density of finds	
Areas of research	Historical archaeology and burial customs
<b>Outreach potential</b>	Some outreach potential: the structures are easy to see. However, there are not many visitors here.
<b>Threats (ongoing/expected)</b> - 1st estimate based on brief visit	
Erosion from water/ice, including erosion from waves, boat-traffic, and freshwater	
Other erosion (wind, animals, visitors)	
Vegetation, roots	
Drainage	

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Melting, heating	
Soil movement (including creeping, cryoturbation, slide)	
Decay of organic materials	
Other threats	
Future threats?	
<b>Comparison to earlier descriptions</b>	
<b>Monitoring</b>	
Already initiated	
Suggested	
<b>Important unknowns/ research needed</b>	
<b>Mitigation</b>	
Erosion protection	
Rescue excavation	
<b>Field worker</b>	PTO, PKK, PØ, KM

## 6.2.9 Qasertoq, qeq23

The survey team took a couple of hours on this small island of Qasertoq situated next to the settlement of Qeqertarsuaat to the east an an opportunity while waiting for the DGPS for catching enough satellites at Kangillermiut. The site comprised a winter house ruin, a tent dwelling, three graves, two meat caches and a fox trap.

**Qeq23A:** Stone built grave. E – W oriented. Built on a rock outcrop on the eastern part of the island. Stones have growth of lichens and willows have started to climb the grave. Well-preserved. Measurements: 2.93 x 1.9m. Height: 0.85m  
Location: N63°05.130' / W050°38.887'  
Photos: 776 -778 (PTO)

**Qeq23B:** Stone built grave. The grave is slightly sagged, on the E-side some stones have fallen to the ground. NE – SW oriented. No vegetation on the structure. Situated E of grave A. Measurements: 1.9 x 1.2m. Height: 0.55m  
Location: N63°05.124' / W050°38.891'  
Photos: 779 - 781 (PTO)

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**Qeq23C:** A rectangular winter house with entrance on the southern side. From the house there is an excellent view over the fjord. The structure is heavily overgrown with heather. The gables are NW SE oriented. 2 meters of the house passage is preserved.

Measurements: 6.4 x 5.6m

Location: N63°05.106' / W050°38.808'

Photos: 494 and 495 (NKA)



**Fig. 78** A barely visible winter house ruin. The entrance passage is visible at the upper left part. The measuring stick is placed at the centre of the houseroom. Photo: Pauline Knudsen, 2013.

**Qeq23D:** A large NE - SW oriented grave built of many stones on the S side of a rock outcrop. Seems relatively undisturbed. Through a hole in the grave it is possible to see: Two crania, five lower extremities and one unidentifiable bone. The skull has very worn teeth and the bone are decomposing.

Measurements: 3.2 x 2.1m

Location: N63°05.110' / W050°38.802'

Photo: 493 (NKA)

**Qeq 23E:** A wide u-shaped structure. Most of the wall on the E-side is missing. The structure is overgrown with heather. The structure is situated on a small promontory.

Measurements: 4.5 x 3.4m

Location: N63°05.114' / W050°38.760'

Photos: 491 og 492 (NKA)

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## INUIT SITES SURVEY

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Fig. 79 Meat cache at Qasertoq. Photo: Peter Toft, 2013

**Qeq 23F:** Meat cache

Location: N63°05.102' / W050°38.806'

Photo: 496 (NKA)

**Qeq23G:** Fox trap

Location 63° 05.161' / W050° 38.933

Photos: 774 - 75

**Qeq 23H:** Meat cache

Location: N63°05.017' / W050°38.115'

Photo: 806 (PTO)

**Qeq 23I:** Fox trap

Location: N63°05.041' / W050°38.137'

Photo: 807 (PTO)

The observations made at Qasertoq summarized in table 6.11.

<b>Site</b>	Qeq23
Site name	Qasertoq
Museum ref	63V2-III-?
Date visited	August 19 <sup>th</sup> , 2013
<b>Location</b>	
N/W (from handheld GPS, ddd.mm.mmm; WGS84)	N63°05.106' / W050°38.808' (site with winter house, Qeq23C)
Altitude	
Surroundings	An island just east of the settlement of Qeqertarsuatiaat
<b>Description</b>	
Site	
Midden dimensions	No midden observed
Maximum depth	
Vegetation	Grasses, moss, willow, heater and lichens.
Outline	
Photos	491 - 496 (NKA) and 774 - 807 (PTO)
<b>Measurements during visit</b>	
Thaw depth	
Soil temperature	
Water content	
Conductivity	
pH	



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Organic content	
Other (ground water level,	
<b>State of preservation</b>	
Buildings/site structure	1 winter house, 1 tent foundation, 3 graves, 2 caches and 1 fox trap
Disturbance	The structures are undisturbed
<b>Midden contents:</b>	
Volume excavated during visit	
Animal droppings	
Textile	
Wood	
Bone	
Turf	
Other	
State of preservation, in brief	
<b>Samples taken during visit</b>	
<b>Research potential</b>	
Undisturbed remains?	The structures seem quite undisturbed
Density of finds	
Areas of research	Historical archaeology and burial customs
<b>Outreach potential</b>	Some outreach potential: the structures are easy to see. However, there are not many visitors here.
<b>Threats (ongoing/expected)</b> - 1st estimate based on brief visit	
Erosion from water/ice, including erosion from waves, boat-traffic, and freshwater	The structures are situated at a distance above the coastline and are not immediately or in near future threatened by erosion from sea.
Other erosion (wind, animals, visitors)	
Vegetation, roots	
Drainage	
Melting, heating	
Soil movement (including creeping, cryoturbation, slide)	
Decay of organic materials	
Other threats	
Future threats?	
<b>Comparison to earlier</b>	

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<b>descriptions</b>	
<b>Monitoring</b>	
Already initiated	
Suggested	
<b>Important unknowns/ research needed</b>	
<b>Mitigation</b>	
Erosion protection	
Rescue excavation	
<b>Field worker</b>	PTO, PKK, PØ, KM

### 6.2.10 Kangillermiut, qeq24

The settlement of Kangillermiut situated just north of the entrance to Allumersat / Bjørnesund, was abandoned in the early 1950'ies, when the Heinrich family moved to Nuuk. According to Bendixen 27 people lived at the settlement by 1918. The site was a former Moravian settlement. The settlement is distributed along the beach of the west side of the headland. The newer part of the settlement with a churchyard and most of the cement foundations is situated on western tip of the headland. The older part with the Inuit style winter houses is at the southern part.

The structures A – U were discovered the returning from the mountain NE of the settlement, where the GPS base station was put up. The eastern side of the mountain a site with shelters, a hunter's bed, storerooms, fox traps and graves were found. The site is probably from an earlier occupation period than Kangillermiut and is probably a seasonal campsite.

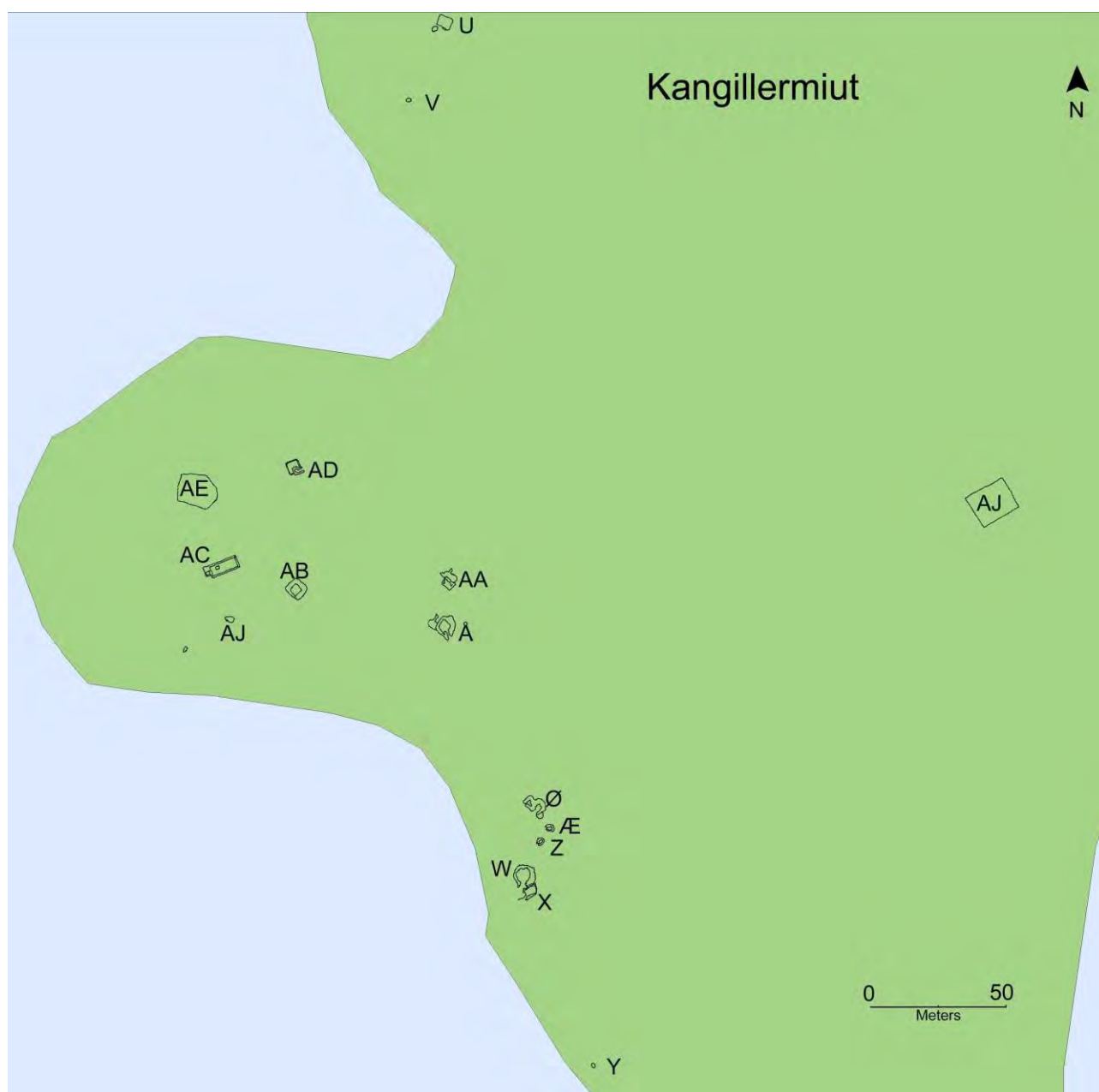


**Fig. 80** Overview of Kangillermiut. The newer part of the settlement is on the plain area where the two cabins are situated. The older part with Inuit style winter houses is further out on the headland. Photo: Pauline Knudsen, 2013.

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## INUIT SITES SURVEY

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**Fig. 81** Map of structures at the settlement of Kangillermiut. The older part of the winter houses are clustered south of the headland toward west. The newer part on the western headland. The seasonal campsite from an earlier period is situated further north and is not visible in this map.

**Qeq 24 A:** Collapsed grave. The chamber seems to be N – S oriented. No bones visible.

Photo: 823 (PTO)

Location: N62°46.915 / W050°21.410'

**Qeq 24 B:** Fox trap.

Photo: 824 (PTO)

Location: N62°46.914 / W050°21.376'

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## INUIT SITES SURVEY

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**Qeq 24 C:** Fox trap

Photos: 825 - 826 (PTO)

Location: N62°46.898 / W050°21.395'

**Qeq 24 D:** Cache or shelter. The chamber is built under a boulder. Opening toward E. Scarcely vegetated with moss in front of the entrance/opening.

Photos: 827 - 837 (PTO)

Location: N62°46.877 / W050°21.346'

**Qeq 24 E:** Shelter built under a rock overhang. South of the entrance, which is facing E, is a stone built wall. A boulder makes the N side of the chamber. The rest of the wall consists of cliffs.

Measurements: 2.32 x 3.54m. Height: 0.62m

Photos: 838 - 844 (PTO)

Location: N62°46.890' / W050°21.385'



Fig. 82 Shelter and cache under a rock in the eastern part of Kangillermiut. Photo: Peter Toft, 2013.

**Qeq 24 F:** Cache consisting of a room made upon a boulder under a rock overhang. The cache is made of piled up stones. A small passage leads into the chamber.

Photos: 845 - 847 (PTO)

Location: N62°46.876' / W050°21.396'

**Qeq 24 G:** Hunter's bed. NE - SE oriented. Heavily overgrown with heather.

Photo: 848 (PTO)

Location: N62°46.895' / W050°21.367'

**Qeq 24 H:** Fox trap.

Photo: 848 (PTO)

Location: N62°46.880' / W050°21.359'



## 6.2

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**Qeq 24 I:** Shelter and cache. Shelter built of stones. The structure includes a boulder as it W wall. The overhang of the same boulder function as a roof. Immediately next to the shelter is a stone built cache.

Photos: 850 - 853 (PTO)

Location: N62°46.880' / W050°21.361'

Measurements inside shelter: 1.4 x 1.53

Measurements cache: 1.22 x 0.90m

Location: N62°46.880' / W050°21.361' (The cliff prevented satellite connection, that's why the position is taken 6 - 7m from the shelter).

**Qeq 24 J:** Rectangular grave, stone built against a boulder to NW. The grave is disturbed. Heavily decomposed cranium and femur are visible inside the grave.

Photos: 854 -858 (PTO)

Location: N62°46.880' / W050°21.361'

**Qeq 24 K:** Partly collapsed fox trap.

Photos: 512 – 513 (NKA)

**Qeq 24 L:** Fox trap.

Photos: 504 – 505 (NKA)

**Qeq 24 M:** Fox trap

Photos: 506 – 507 (NKA)

**Qeq 24 N:** Fox trap.

Photos: 508 – 509 (NKA)

**Qeq 24 O:** Foxtrap.

Photos: 510 – 511 (NKA)

**Qeq 24 P:** Undisturbed oval grave.

The stones are overgrown with lichen and moss in-between the stones.

Photos: 514 – 515 (NKA)

**Qeq 24 Q:** Fox trap

Photos: 516 – 517 (NKA)

**Qeq 24 R:** Partly collapsed cairn.

Photo: 518 (NKA)

**Qeq 24 S:** Cairn

Photo: 519 (NKA)

**Qeq 24 T:** Partly collapsed fox trap.

Photos: 520 - 521(NKA)



**Fig. 83** Cairn probably marking the seasonal campsite East of Kangillermiut. Photo: Pauline Knudsen, 2013



**Fig. 84** Grave P situated east of Kangillermiut. Photo: Pauline Knudsen, 2013



**Fig. 85** Fox trap east of Kangillermiut. Photo: Pauline Knudsen, 2013

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**Qeq 24 U:** Foundation built of stones. The corners are casted in cement. Overgrown with heather, willows, lichens and moss.

Photos: 522

**Qeq24V:** Fox trap. A piece of iron sheet has been used as trapdoor.

Photos: 523 – 524 (NKA)

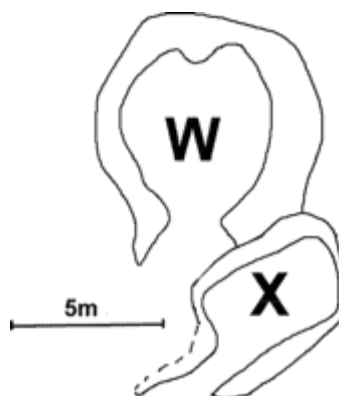


Fig. 86 Fox trap with an iron sheet used as trap door. Photo: Pauline Knudsen, 2013

**Qeq 24 W:** Trapezoid turf built winter house. Entrance with a passage is situated to the SE. The house was probably originally a part of house X. The structure is heavily overgrown with grasses. A heavily lyme grass overgrown kitchen midden is situated below the house toward the beach. The midden is being eroded by the sea. Many well-preserved seal bones are spread out on the beach below the midden .

Wall preserved up to 0.85m

Photos: 526 – 528 (NKA)



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**Qeq24Z:** U shaped stone built tent foundation. Entrance to W. Overgrown with heather. The walls are preserved up to 0.47m



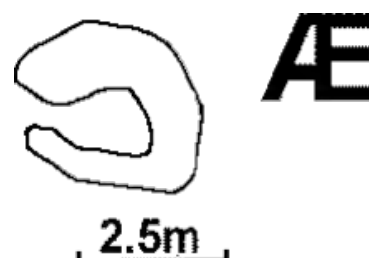
**Fig. 87** Cairn.  
Photo: Pauline Knudsen, 2013.

**Qeq24Y:** Cairn. Photo: 525 (NKA)



**Qeq24X:** Four sided turf built winter house with entrance and house passage on SW side. The house have several niches: In the NW corner, at the middle of each of the E and W walls. The structure is heavily overgrown with grasses. Pieces of turf from the wall have fallen into the interior of the structure. The walls are preserved up to 0.55m  
Photos: 526 – 528 (NKA)

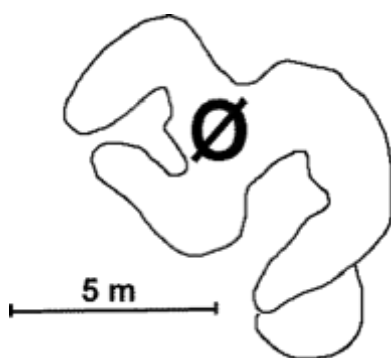
**Qeq24Æ:** U shaped stone built tent foundation. The entrance is on the W side. Walls preserved up to 0.47m. The well-preserved structure is overgrown with heather.  
Photos: 531 – 532 (NKA)





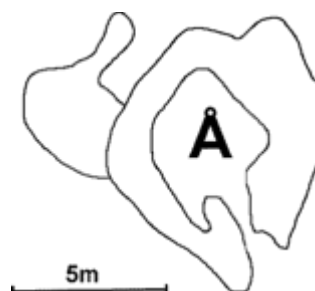
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**Qeq24Ø:** A dwelling structure complex with a quadrangular mainroom with pieces of timber in it. Probably a wooden cabin has originally been inside this room. W to this room there is a smaller quadrangular room with it's own entrance on the W side and another N the E side of the mainroom there is a small cache in the wall. The wall in the main room are preserved up to 1.2m. The structure is overgrown with fers, grasses and heather. The structure is well-preserved. Photos: 535 - 537(NKA)

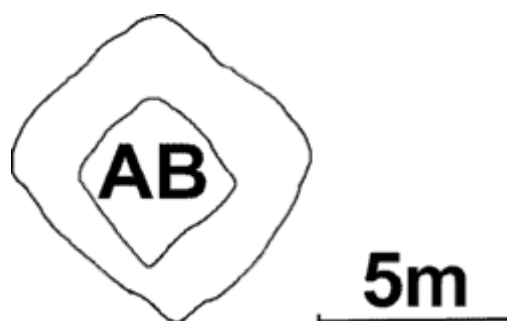
**Qeq24 Å:** Four sided house with entrance to SE. Built of stones and well-preserved wall except from on the W side. Storeroom in the NW corner. Walls preserved in heights between 0.1 - 0.64m. Overgrown with grasses, heather and lichens. Photos: 538 – 540 (NKA)



**Qeq24AA:** A quadrangular structure. Walls on the S and N side are built of stones and turf. The inside of the W corner of the wall is cast in cement. Probably the structure is the remains of the isolating wall and cement foundation of a wooden house. Pieces of timer are visible in the heavily vegetated interior of the structure. The vegetation consists of grasses, willow and heather. The walls are preserved up to 0,8m.

Photos: 541- 543 (NKA)

**Qeq24AB:** Rectangular stone built structure. Wall is missing on the W side. Height of wall between 0.47 – 0.78m. Two stones have fallen to the ground on the N side. Structure overgrown with grasses and Arctic root. Well-preserved. Photos: 547 – 548 (NKA)





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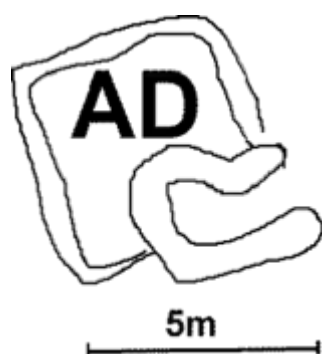
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**Qeq24AC:** Rectangular concrete foundation with a quadrangular room on the N side with stone steps on the W side. Iron reinforcements have corroded and the concrete has cracks. Inside the foundation there is a rectangular concrete block. Graffiti are scratched in and painted several places. Measurements approx.: 5 x 10 m. Height of foundation: 0.4m and thickness: 0.24m.

Photo: 544 – 546 (NKA)



**Fig. 88** Cement foundation of the largest building at Kangillermiut. Photo: Pauline Knudsen, 2013



**Qeq24AD:** Quadrangular house foundation. The small and narrow foundation is cast in cement. In the E corner of the foundation there is a construction made of turf and cement. The structure is overgrown with grass, heather, moss and Arctic Root (*Rhodiola rosea*).

Photos: 552 – 556 (NKA)

**Qeq24AE:** Stone built rectangular dike around the graveyard. Natural stones are used in the structure. The dike runs into a raised bedrock upon which the westernmost grave are situated. The dike is most well-preserved on the E side. Maximum height of dike 0.24m

Photos: 919 – 924 (PTO)

**Qeq24AH:** Destroyed fox trap.

Photo: 549 (NKA)

**Qeq24AI:** A partly disturbed oblong, stone built grave. Cranium and bone from extremities have been spread on the ground around the grave.

Photos: 550 og 551 (NKA)



**Fig. 89** Part of the churchyard dike is visible at this photo by: Peter Toft, 2013.

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**Qeq24AJ:** A Graveyard delimited by a row of stones. The yard contains five interred burials situated in the N part of the yard. The burials are individually delimited with a row of stones. The graves are overgrown with heather, willow, grasses and moss. Three of the graves have a standing wooden, white painted cross. The wooden crosses at two of the graves have overturned. The graveyard is situated on a slightly southward sloping plain.

Photos: 557 – 560 (NKA)



**Fig. 90** The new graveyard at Kangillermiut is situated behind the hill to the southeast. Photo: Pauline Knudsen, 2013

Grave number	<b>24AF</b>
Location	N62°46.503' / W050°21.060'
Dimensions	2,3 x 1,35m . Height: 0,65m
Orientation	
Photo number	861, 878 - 879 (PTO)
State of preservation	Undisturbed
Vegetation	Grass
General description	Trapezoid turf built grave situated at the Easternmost part of the churchyard. On the west and south side of the grave lays the remains of the overturned wooden picket fence that once surrounded the grave. At the western part of the grave is a still standing wooden pole from a cross.

Grave number	<b>24AK</b>
Location	N62°46.505' / W050°21.062'
Dimensions	2,3 x 1,35m . Height: 0,65m
Orientation	W – E
Photo number	863 (PTO)
State of preservation	Undisturbed
Vegetation	Willows, heather and Arctic root
General description	Rectangular stone built grave. Situated close to grave AF

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Grave number	<b>24AL</b>
Location	N62°46.508' / W050°21.064'
Dimensions	
Orientation	
Photo number	884 (PTO)
State of preservation	Undisturbed
Vegetation	Lichens, grasses and Arctic Root
General description	Circular stone built grave. Built of big stones. Situated between graves AK and AM

Grave number	<b>24AM</b>
Location	N62°46.506' / W050°21.065'
Dimensions	1.9 x 1.2m. Height: 0.32m
Orientation	W – E
Photo number	864 (PTO)
State of preservation	
Vegetation	Grasses and Arctic root
General description	Rectangular stone built grave.

Grave number	<b>24AN</b>
Location	N62°46.506' / W050°21.067'
Dimensions	2.6 x 1.6m. Height: 0.3m
Orientation	W – E
Photo number	865 (PTO)
State of preservation	
Vegetation	Grass and heather
General description	The grave framed with stones. Sagged in the center. Situated immediately by the dike beside grave N

Grave number	<b>24AO</b>
Location	N62°46.504' / W050°21.071'
Dimensions	2 x 1.4m . Height: 0.2m
Orientation	W – E
Photo number	866 (PTO)
State of preservation	Heavily disturbed
Vegetation	Heather
General description	Oval stone built grave.

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Grave number	<b>24AP</b>
Location	N62°46.504' / W050°21.069'
Dimensions	1,8 x 1,2m . Height: 0,4m
Orientation	NW – SE
Photo number	867 - 868 (PTO)
State of preservation	Disturbed. Surface of bones are disintegrating
Vegetation	Lichens and heather
General description	Oval stone built grave. Inside grave is one humerus and two femurs visible

Grave number	<b>24AQ</b>
Location	N62°46.505' / W050°21.070'
Dimensions	Height: 0,43m
Orientation	W – E
Photo number	869 (PTO)
State of preservation	One cover stone is missing
Vegetation	Heather and willows. Moss inside the grave.
General description	Oval stone built grave. Glass splinters from a modern beer bottle visible inside grave.

Grave number	<b>24AR</b>
Location	N62°46.505' / W050°21.066'
Dimensions	1.4 x 1.1m. Height: 0,25m
Orientation	W – E
Photo number	872 (PTO)
State of preservation	Heavily disturbed. Bones badly preserved
Vegetation	Heather and lichens. Inside chamber moss and ferns
General description	Rectangular stone built grave, situated close to grave AS. Inside grave one humerus, two cervical vertebrae and one rib bone is visible.

Grave number	<b>24AS</b>
Location	N62°46.504/ W050°21.063'
Dimensions	1,5 x 1,05m. Height: 0,35m
Orientation	E – W
Photo number	873 – 875 (PTO)
State of preservation	Grave disturbed in the E part. One stone missing in that part. Surface of bones are peeling off.
Vegetation	Heather and lichens
General description	Rectangular stone built grave. Inside the grave one femur, a pelvis, a tibia, a rib bone, a radius, one ulna and to vertebrae are visible. The bone is anatomically correct positioned.



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Grave number	<b>24AT</b>
Location	N62°46.504/ W050°21.066'
Dimensions	2.3 x 1.77m. Height: 0.4m
Orientation	E – W
Photo number	876 (PTO)
State of preservation	Undisturbed
Vegetation	Heather, grasses, Arctic root and lichens.
General description	Big oval stone built grave situated at the top of the graveyard. Wooden cross with machine-made nails preserved. Crossbeams lie on the grave surface .

Grave number	<b>24AU</b>
Location	N62°46.501/ W050°21.064'
Dimensions	168m. Height: 0,32m
Orientation	NW – SE
Photo number	877 (PTO)
State of preservation	Several cover stones are missing
Vegetation	Grasses and lichens
General description	Circular stone built grave.

Grave number	<b>24AV</b>
Location	N62°46.502/ W050°21.069'
Dimensions	2.17 x 1.2m. Height: 0.5m
Orientation	W – E
Photo number	880 (PTO)
State of preservation	Undisturbed
Vegetation	Grasses, heather and willows
General description	Oval stone built grave. Situated at the top of the yard.

Grave number	<b>24AW</b>
Location	N62°46.503/ W050°21.072'
Dimensions	1,27 x 1,1m . Height: 0,3m
Orientation	E – W
Photo number	881 - 883 (PTO)
State of preservation	Disturbed and with a sagged center. The surface of the bones is peeling off.
Vegetation	Grasses and lichen. Moss inside grave.
General description	Oval stone built grave. Inside grave a cranium and a proximal phalanges can be seen. The grave is situated at the top of the yard.

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Grave number	<b>24AX</b>
Location	N62°46.506/ W050°21.073'
Dimensions	1.39 x 1.7m. Height: 0,94m
Orientation	E – W
Photo number	885 (PTO)
State of preservation	Three cover stone had fallen off.
Vegetation	Grasses, moss and heather
General description	Rectangular stone built grave.

Grave number	<b>24AY</b>
Location	N62°46.505/ W050°21.071'
Altitude	
Dimensions	1.4x 1.15m. Height: 0.52m
Orientation	E – W
Photo number	886 (PTO)
State of preservation	Undisturbed
Vegetation	Heavily overgrown with heather.
General description	Oval stone built grave. The grave is one among a cluster of the graves AX – AÆ

Grave number	<b>24AZ</b>
Location	N62°46.503/ W050°21.072'
Dimensions	2.6 x 1.5m. Height: 0.41m
Orientation	E – W
Photo number	887 (PTO)
State of preservation	Undisturbed
Vegetation	Lichen, grasses and heather
General description	Rectangular stone built grave. And built of turf.

Grave number	<b>24AÆ</b>
Location	N62°46.501/ W050°21.074'
Dimensions	2.95 x 1.9m. Height: 0.72m
Orientation	E – W
Photo number	888 (PTO)
State of preservation	Two cover stone is missing at the E end
Vegetation	Heavy
General description	Rectangular stone built grave. Situated by grave AZ

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Grave number	<b>24AØ</b>
Location	N63°46.505' / W050°44.068'
Dimensions	1,2 x 1m. Height: 0,3m
Orientation	N – S
Photo number	909 (PTO)
State of preservation	Undisturbed
Vegetation	Heather and Arctic root
General description	Oval stone built grave. Built close to AT.

Grave number	<b>24AÅ</b>
Location	N63°03.501' / W050°21.063'
Dimensions	2.4 x 1.85m. Height: 0.62m
Orientation	NW – SE
Photo number	910 (PTO)
State of preservation	
Vegetation	Heather, grasses and willows
	Oval stone built grave. Two pieces of white dried out boards are laying on the surface at the SE end

Grave number	<b>24BA</b>
Location	N62°46.501' / W050°22.062'
Dimensions	2.12 m. Height: 0.36m
Orientation	
Photo number	911 (PTO)
State of preservation	Undisturbed
Vegetation	Willows, heather and grasses.
General description	Circular stone built grave.

Grave number	<b>24BB</b>
Location	N62°46.501' / W050°21.580'
Dimensions	2.5 x 1.5m. Height: 0.36m
Orientation	N – S
Photo number	912 – 913 (PTO)
State of preservation	Sagged at the center
Vegetation	Willows, grasses, lichen and heather.
General description	

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Grave number	<b>24BC</b>
Location	N62°46.502' / W050°21.059
Dimensions	1.9 x 1.47m . Height: 0,3m
Orientation	NW – SE
Photo number	914 - 915 (PTO)
State of preservation	Sagged at the center of the grave
Vegetation	Willow, grasses, heather and lichen
General description	Rectangular and stone built grave. Grave framed with stones .

Grave number	<b>24BD</b>
Location	N63°03.541' / W050°44.276'
Dimensions	3.15 x 1.7m. Height: 0.55m
Orientation	NW – SE
Photo number	924 - (NKA)
State of preservation	Undisturbed
Vegetation	Heavy
General description	The grave is rectangular and built of turf. Some remains of a wooden cross.

The observations made at Kangillermiut summarized in table 6.12.

<b>Site</b>	Qeq24
Site name	Kangillermiut
Museum ref	63V1-IV-5
Date visited	August 20 <sup>th</sup> - 21 <sup>st</sup> , 2013
<b>Location</b>	
N/W (from handheld GPS, ddd.mm.mmm; WGS84)	N62°46.503/ W050°21.072'
Altitude	5 – 184m
Surroundings	The settlement is situated on a headland that makes the northwestern limit of Allumersat/Bjørnesund. 500 meters to the east the land is rising into a mountain.
<b>Description</b>	
Site	The older part is situated to the west on an sloping area close to the beach. The newer part including the old churchyard is situated on a small, plain headland pointing toward NW. The seasonal campsite is situated some kilometers to the NE.
Midden dimensions	No midden observed
Maximum depth	



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Vegetation	Grasses, moss, willow, heater and lichens.
Outline	
Photos	NKA 499 – 560 (NKA) and 814 - 925 (PTO)
<b>Measurements during visit</b>	
Thaw depth	
Soil temperature	
Water content	
Conductivity	
pH	
Organic content	
Other (ground water level,	
<b>State of preservation</b>	
Buildings/site structure	28 graves, 2 churchyards, 12 fox traps, 3 caches, 2 shelters, 1 hunter's bed, 3 cairns, 2 cement foundations, 1 stone foundation, 2 winter houses, 3 houses, 2 tent foundations and a stone structure.
Disturbance	Relatively undisturbed
<b>Midden contents:</b>	
Volume excavated during visit	
Animal droppings	
Textile	
Wood	
Bone	
Turf	
Other	
State of preservation, in brief	
<b>Samples taken during visit</b>	
<b>Research potential</b>	
Undisturbed remains?	The structures seem quite undisturbed
Density of finds	
Areas of research	Historical archaeology and burial customs
<b>Outreach potential</b>	Some outreach potential: the structures are easy to see. However, there are not many visitors here.
<b>Threats (ongoing/expected)</b> - 1st estimate based on brief visit	The structures which are not close to the coast line are not threatened by erosion
Erosion from water/ice, including erosion from waves, boat-traffic, and freshwater	The winter houses by the beach are actively being eroded. The midden and entrance of structure W have already gone.
Other erosion (wind,	

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animals, visitors)	
Vegetation, roots	
Drainage	
Melting, heating	
Soil movement (including creeping, cryoturbation, slide)	
Decay of organic materials	
Other threats	
Future threats?	
<b>Comparison to earlier descriptions</b>	
<b>Monitoring</b>	
Already initiated	
Suggested	
<b>Important unknowns/ research needed</b>	
<b>Mitigation</b>	
Erosion protection	
Rescue excavation	
<b>Field worker</b>	PTO, PKK, PØ, KM

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## 6.2.11 Miagguup Alanngua, qeq25

**Qeq25A:** Circular grave built of mangle slabs.

Measurements: Diameter 2.43 – 2.75m

Location: N62° 47.705' / W050° 15.294'

Photo: 891 (PTO)

**Qeq25B:** Rectangular stone built grave.

The E – W oriented grave that has collapsed is the one closest to the fjord.

Measurements: 2.47 x 1.61m. Height: 0.36m

Location: N62° 47.709' / W050° 15.301

Photo: 892

**Qeq25C:** Rectangular, stone built grave.

E – W oriented

Measurements: 2.2 x 1.61m Height: 0.24m

Location: N62° 47.708' / W050° 15.295'

Photo: 893 (PTO)

**Qeq25D:** Triangular stone built grave.

NW – SE oriented.

Measurements: 2.14 x 1.90. Height: 0.72m

Location: N 62°47.711' / W 050° 15.293'

**Qeq25E:** Rectangular stone built grave that have collapsed slightly.

Location: N 62°47.709' / W 050° 15.291

Photo: 895 (PTO)

**Qeq25F:** Rectangular stone built grave.

Visible inside grave: Two skulls, two pair under extremities

Measurements: 2.66 x 2.98. Height: 0.33m

Location: N62° 47.715' / W50° 15.295'

Photo: 896 (PTO)

**Qeq25G:** Oval grave heavily overgrown with lichens and heather. E – W oriented.

The grave has collapsed but seems undisturbed. No bones are visible.

E – W oriented.

Measurements: 2.18 x 1.60m. Height: 0.18m

Location: N62° 47.716' / W50° 15.289'

The site was recommended by HHE. He has been on the site on a hunting trip, where he saw some circle of stones. These structures showed up to be structures for meat drying. Additionally a campsite and a graveyard was mapped. This site is probably the site with number 62V1-IV-28 in the museum archives.

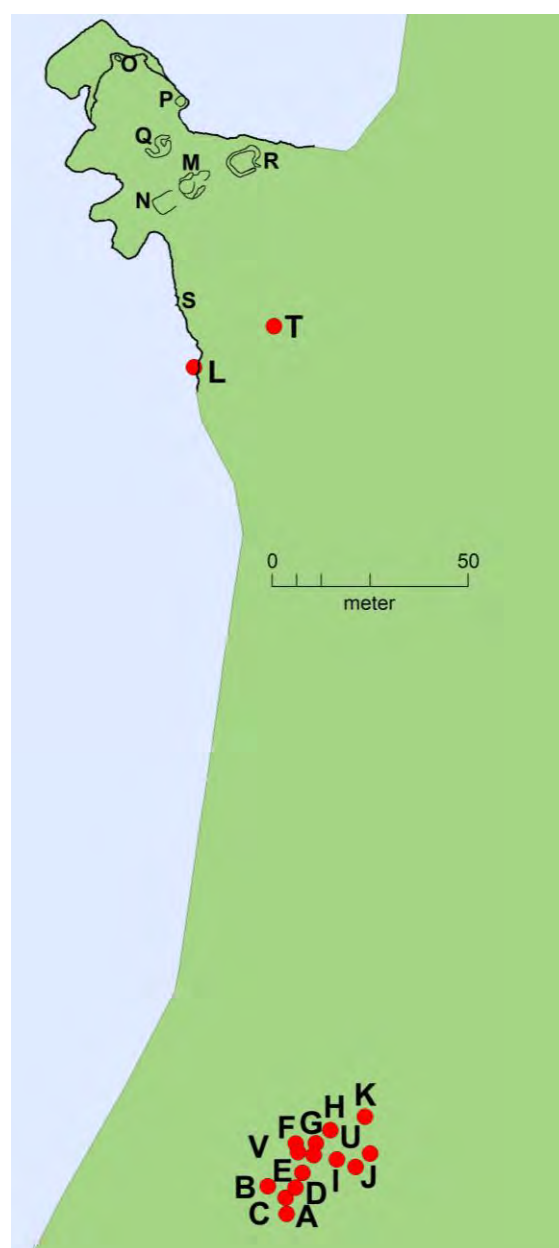


Fig. 91 Map of structures at Miagguup Alanngua

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**Fig. 92** One of the graves at Miagguup Alanngua.  
Photo: Peter Toft, 2013



**Fig. 93** Another grave at Miagguup Alanngua.  
Photo: Peter Toft, 2013

**Qeq25H:** Circular grave

Diameter: 2.47m. Height: 0.33

Location: N62° 47.718' / W50° 15.285'

**Qeq25I:** E - W oriented grave. Heavily overgrown with moss and lichens.

Measurements: 2.74 x 2.26m. Height: 0.25m.

Location: N62° 47.714' / W50° 15.282'

Photo: 899 (PTO)

**Qeq25J:** Oval grave, heavily overgrown with moss

Measurements 2.22 x 2.22m. Height: 0.33m

N62 °47.714 W50° 15.276

Photo: 900 (PTO)

**Qeq25K:** Rectangular N – S oriented grave scarcely grown with moss and lichens

Measurements: 2.97 x 2.52

Location: N62° 47.720' / W50° 15.276'

Photo: 901 - 902 (PTO)

**Qeq25L:** Fox trap by the beach. The entrance is facing south.

Photos: 562 - 563 (NKA)

N62°47.818' / W050°15.365'



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**Fig. 94** The small headland with four tent foundations. Photo: Pauline Knudsen, 2013.

**Qeq25M:** Big turf and stone built tent foundation. House passage and cooking niche are established on the southeastern side of the structure. A boulder is included in the wall construction of the niche. Additionally there is a small storeroom built into the S wall on the outside. The remains of a sleeping platform can be seen in the NW part of the room. The structure is overgrown with grasses, moss and heather. Walls are preserved up to 0.5m.

Photos: 568 - 576 (NKA) tent

**Qeq25N:** A big, stone built foundation overgrown with grasses and heather.

Walls preserved up to: 0,30m

Photos: 579 - 582 (NKA)

**Qeq25O:** Fox trap, N S oriented. Photos: 564 - 565 (NKA)

**Qeq25P:** Fox trap. Photos: 566 - 567 (NKA)

**Qeq25Q:** An almost Trapezoid tent foundation. The entrance is on the southern side and the cooking niche is on the east side. The niche has its own entrance. The structure is overgrown with heather, grass and moss.

Walls preserved up to: 0.3m

Photos: 583 -588 (NKA)

**Qeq25R:** A big tent foundation with a niche on the northern side. The structure is overgrown with grass and heather. Photos: 589 - 591 (NKA)

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**Fig. 95** Part of tent foundation at Miagguup Alanngua. Photo: Pernille Ødegaard, 2013.

**Qeq25S:** Part of an eroded wall. Photos: 577 - 578

**Qeq25T:** Pointed oval structure probably a umiaq playing structure. Made of rather big stones. The structure is situated above the settlement to the SW.

Photos: 592 - 596 (NKA)

Location: N62°47.825' / W050°15.344'



**Fig. 96** Structure above campsite interpreted as a play umiaq structure. Photo: Pernille Ødegaard, 2013



**Fig. 97** Detail of umiaq structure. Photo: Pernille Ødegaard, 2013



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**Qeq25-U:** Rectangular grave heavily overgrown with moss and heather. N – S oriented.

Measurements: 1.68 0.90m

Location: N62° 47.714' / W50° 15.289'

Photo: 903 (PTO)

**Qeq25-V:** Rectangular grave completely overgrown with moss and heather. NW – SE oriented.

Measurements: 2 x 1.13m. Height: 0.47m

Location: N62° 47.714' / W50° 15.294'

Photo: 904 (PTO)



**Fig. 98** Meat drying structure above the campsite at Miagguup Alanngua. The site was unfortunately not described and mapped. Photo: Peter Toft, 2013

The observations made at Miagguup Alanngua summarized in table 6.13.

<b>Site</b>	Qeq25
Site name	Miagguup Alanngua
Museum ref	62V1-IV-28
Date visited	August 21 <sup>st</sup> , 2013
<b>Location</b>	
N/W (from handheld GPS, ddd.mm.mmm; WGS84)	N62°47.818' / W050°15.365'
Altitude	4 – 45m
Surroundings	The camp site is situated on a small headland on the southwest cost of Allumersat. Probably the site is on the north side of the passage between the fjords of Allumersat and the next to the south. Behind the headland a valley is leading southwards. The valley is on both sides delimited by steep mountains.
<b>Description</b>	
Site	Above the campsite some 5 meters is a stone built umiaq-playing

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	structure. 150 meters to the W of the settlement on a plateau is the burial place with 13 stone built graves. 200 meters south of the campsite on flat rock outcrops are some meat drying structure.
Midden dimensions	No midden observed
Maximum depth	
Vegetation	Grasses, moss, willow, heater and lichens.
Outline	
Photos	
<b>Measurements during visit</b>	
Thaw depth	
Soil temperature	
Water content	
Conductivity	
pH	
Organic content	
Other (ground water level,	
<b>State of preservation</b>	
Buildings/site structure	13 graves, 3 fox traps, 1 play umiaq structure, 4 tent foundations, 2 tent play structures and meat drying stone structures.
Disturbance	All structures seems undisturbed
<b>Midden contents:</b>	
Volume excavated during visit	
Animal droppings	
Textile	
Wood	
Bone	
Turf	
Other	
State of preservation, in brief	
<b>Samples taken during visit</b>	
<b>Research potential</b>	
Undisturbed remains?	The structures seem quite undisturbed
Density of finds	
Areas of research	Historical archaeology (probably also prehistoric) and burial customs
<b>Outreach potential</b>	Some outreach potential: the structures are easy to see. However, there are not many visitors here.
<b>Threats (ongoing/expected)</b> - 1st estimate based on brief visit	
Erosion from water/ice,	



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including erosion from waves, boat-traffic, and freshwater	
Other erosion (wind, animals, visitors)	
Vegetation, roots	
Drainage	
Melting, heating	
Soil movement (including creeping, cryoturbation, slide)	
Decay of organic materials	
Other threats	
Future threats?	
<b>Comparison to earlier descriptions</b>	
<b>Monitoring</b>	
Already initiated	
Suggested	
<b>Important unknowns/ research needed</b>	
<b>Mitigation</b>	
Erosion protection	
Rescue excavation	
<b>Field worker</b>	PTO, PKK, PØ, KM

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## 6.2.12 Aasiviit

A site on a southwest facing headland and a bay south of it. Behind the headland is a graveyard with several graves. A communal house is situated on the beach at the bay to south. The other dwelling structure is situated between the two areas.



Fig. 99 The Aasiviit site seen from outside the “shamans cave”. Photo: Peter Toft, 2013.

**Qeq26A:** Cave situated high up in the mountain behind Aasiviit. According to HHB “a shamans rubbing stone” that used to be inside the cave have been pushed out for years back. Money, soft drink bottles and a lighter were found inside the cave.

N62° 57.027 / W50° 27.519

Photo: 929 – 930 and 932 - 934. 931 are the view. (PTO)



Fig. 100 Inside the shamans cave. Photo: Peter Toft, 2013

**Qeq26B:** Big communal house immediately by the beach south of the Shamans shelter. The house is E – W oriented and the entrance or entrances are on the east side of the house.

Location: N62° 57.045 / W50° 27.677

Photos: 943 – 947 (PTO)

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Fig. 101 The communal house ruin at Aasiviit. Photo: Pauline Knudsen, 2013.

**Fox trap:** N62° 57.092 / W50° 27.708

Photo: 948 (PTO)

**Qeq 26C:** Four sided stone built structure.

N62° 57.142 / W50° 27.773

Photo: 949 (PTO)

The observations made at Qasertoq summarized in table 6.14.

<b>Site</b>	Qeq26
Site name	Aasiviit
Museum ref	62V1-IV-13
Date visited	August 21 <sup>st</sup> , 2013
<b>Location</b>	
N/W (from handheld GPS, ddd.mm.mmm; WGS84)	N62° 57.045 / W50° 27.677
Altitude	3 – 74m
Surroundings	The site is situated in a cove on the west coast. A steep mountain delimits the site to SE. To the west is a plain area along the cove. To the NW is a small headland. And finally to the north is another small cove.

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<b>Description</b>	
Site	The burial place is situated behind the headland. The dwelling structures are situated by the coast on the plain area towards W. The “Shamans cave” is situated 70 meters up on the mountain, east of the dwelling area.
Midden dimensions	No midden observed
Maximum depth	
Vegetation	Grasses, moss, willow, heater and lichens.
Outline	
Photos	NKA (NKA) and 929 - 949 (PTO)
<b>Measurements during visit</b>	
Thaw depth	
Soil temperature	
Water content	
Conductivity	
pH	
Organic content	
Other (ground water level,	
<b>State of preservation</b>	
Buildings/site structure	1 cave, 1 communal house, 1 dwelling structure, 1 fox trap and a number of graves.
Disturbance	
<b>Midden contents:</b>	
Volume excavated during visit	
Animal droppings	
Textile	
Wood	
Bone	
Turf	
Other	
State of preservation, in brief	
<b>Samples taken during visit</b>	
<b>Research potential</b>	
Undisturbed remains?	The structures seem quite undisturbed
Density of finds	
Areas of research	Historical archaeology and burial customs
<b>Outreach potential</b>	Some outreach potential: the structures are easy to see. However, there are not many visitors here.
<b>Threats (ongoing/expected)</b> - 1st estimate based on brief	



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visit	
Erosion from water/ice, including erosion from waves, boat-traffic, and freshwater	
Other erosion (wind, animals, visitors)	
Vegetation, roots	
Drainage	
Melting, heating	
Soil movement (including creeping, cryoturbation, slide)	
Decay of organic materials	
Other threats	
Future threats?	
<b>Comparison to earlier descriptions</b>	
<b>Monitoring</b>	
Already initiated	
Suggested	
<b>Important unknowns/ research needed</b>	
<b>Mitigation</b>	
Erosion protection	
Rescue excavation	
<b>Field worker</b>	PTO, PKK, PØ, KM

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