

Jonas Jensen's Big Caribou Fence

(Nuussuaq, northern Disko Bay, West Greenland)



Fieldreport 2024

by

Angutinnguaq Olsen (Greenland National Museum & Archives, Greenland)

and

Clemens Pasda (University of Jena, Germany)

INTRODUCTION

Saputit („fence“) is a bay in the southeastern part of Nuussuaq. On its western side a c. 600m long, stone-built fence is situated which closes the whole area between the shore and the steep mountain scree (appendix A). In 1811, Greenlanders indicated this site to Karl Ludwig Giesecke (1910, 359) when travelling nearby by umiaq but he did not see the site. Registration of the fence by European scientists started in the early 20th century (Mathiassen 1934, 32-34; Nellemann 1969/1970; 1970; Porsild 1920) followed by interpretation of its age and function (Meldgaard 1986, 27; Nellemann 1969/1970; 1970; Odgaard 2018, 71-75; Ostermann/Porsild 1921, 249; Porsild 1920). In 2019 an archaeological survey was conducted on Nuussuaq (Neubeck/Pasda 2019; Pasda 2023; Pasda in press). At Saputit, the fence and its numerous stone-built shelters and meat caches have been systematically documented. After fieldwork, Jonas Jensen (Saqqaaq) provided information on inland occupation and coastal caribou hunting. He indicated another long, stone-built caribou fence which he found in 2003 high up in a small valley west of Saputit. In an interview made by AO in July 2023 in Saqqaaq (appendix B), Jonas Jensen said that caribou driven by hunters from Marraat to the east could not, due to the fence discovered by him, escape into the high mountains but had to flee to Saputit where they could be shot at the well-known fence. Further local lore on presence of caribou was collected by AO (appendix C). By chance, in August 2023 the fence of Jonas Jensen was photographed by two hikers from Germany who sent pictures to CP. CP informed the Greenland National Museum which contacted the German couple who sent a fieldreport to Nuuk. Thus, local lore and a recent field observation indicate the existence of a second, long, stone-built fence near Saputit. As Saputit is the longest, stone-built fence in Greenland, inspection and registration of the new site was necessary. This led to archaeological fieldwork in 2024 which was done with the permission of the Greenland National Museum & Archives (permit no. 2024-02).

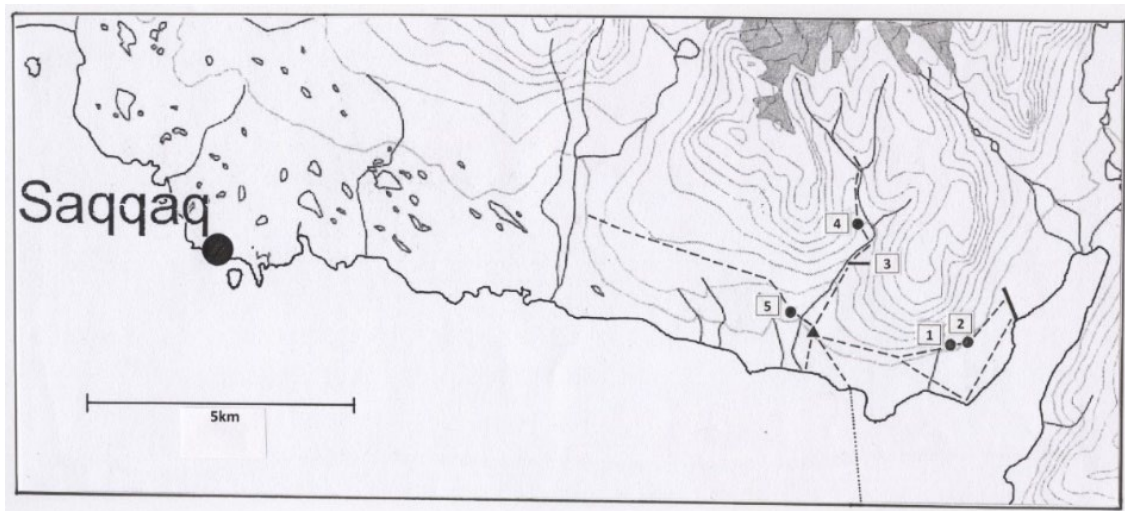


Fig. 1: Southeastern part of Nuussuaq with registered sites (1-5), stone-built fences (line), survey routes (dashed line), camp site of archaeologists (triangle) and glaciers (grey) – map by CP.

ITINERARY

- 25 July: CP by car from Jena to Copenhagen
- 26 July: CP with *AirGreenland* from Copenhagen to Ilulissat
- 27 July: AO with *AirGreenland* from Nuuk to Ilulissat
- 28 July: At 1000 with *Ilulissat Water Tours* from Ilulissat to Imerissut („Good water“). Establishment of camp at $N70^{\circ}01'10,8''/W051^{\circ}40'26,0''$ (fig. 1). Walk for c. 1,5km and c. 200m height uphill to inspect the fence (fig. 2 and 3) to estimate work load for registration.



Fig. 2: Central part of Jonas Jensen's big caribou fence (from W) – photo by CP.

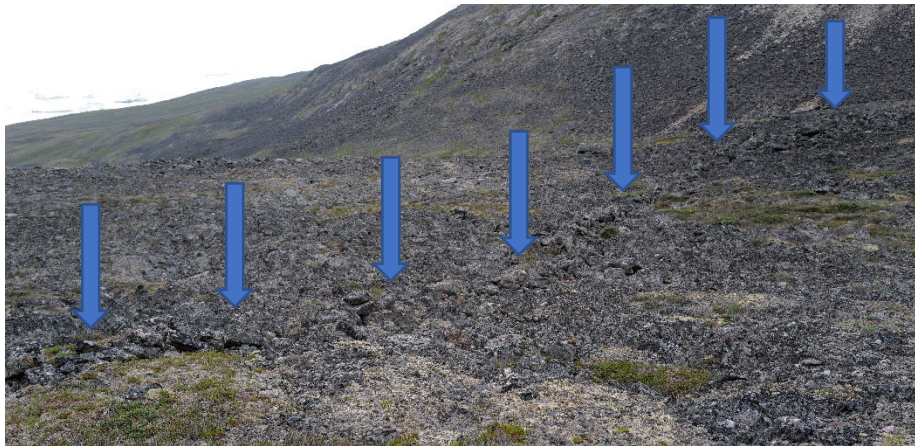


Fig. 3: Eastern part of Jonas Jensen's big caribou fence (from S) – photo by CP.

29 July: Tentbound due to heavy rain.

30 July: At 0800 on caribou paths below mountain Palungataaq („sled dog with hanging ears“; appendix B) to Saputit. Registration of **site 1** (meat cache) and **site 2** (caribou hunting drive with ten or twelve inussuit, four shooting blinds, one meat cache and a short, fence-like arrangement). At Saputit, documentation of the well-known, stone-built caribou fence with a drone (*DJI Mavic Mini*) by AO (fig. 4; appendix A). Back to camp site at 1610.



Fig. 4: AO preparing the drone for registration of the fence at Saputit (fence in background, from NE) – photo by CP.

31 July: Tentbound till 1100 due to fog. **Site 3** (Jonas Jensens' Big Caribou fence) was registered (i) with his drone by AO (fig. 17-20) and (ii) in scale 1:1000 with compass, tape-measure, meter-rule, hand-held GPS (*Garmin Foretrex 401*) by CP (fig. 21). The vicinity of the stone-built fence was surveyed but no artefacts, no caribou bones and no archaeological structure could be identified. Back to camp site at 1900.

- 1 August: Tentbound till 1100 due to fog. After lunch, the valley north of site3/fence was surveyed: just behind the caribou fence the valley is characterized by steep slopes and a boulder-filled bottom, sparse grassy spots and few lichen patches. Only one inussuk (**site 4**) was found. After a short rest at a steep step, its hinterland with a snow patch was surveyed for only c. 200m. Back to camp site at 1500.
- 2 August: Start at 0900 to go west to look for sites between Imerissut and Marraat („quicksand“), the large, broad, north/south-running valley dissecting the coastal plain between Saqqaq and Saputit (fig. 5). A route more far away from the coast was taken but only one site, a large, stone-built trap (**site 5**) was found just right beside Imerissut. Back to camp site at 1500.



Fig. 5: Marraat, the valley between Saqqaq (far left) and Saputit (from E) – photo by CP.

- 3 August: Drying and packing of equipment and tents, stroll along the gravel beach. At 1800 with *Ilulissat Water Tours* back to Ilulissat (fig. 6).



Fig. 6: Plain between Saqqaq (left arrow) and Imerissut (right arrow) with Marraat (central arrow, from S) – photo by CP.

Several recently shed caribou antlers were found around Imerissut (fig. 7). Following the criteria summarized by Pfeifer (2016, 35-37), these antlers prove presence of grown-up, large caribou bulls in late summer to early autumn (August-October). The antlers were left in the terrain.



Fig. 7: Large caribou antlers collected around Imerissut – photo by CP.

- 4 August: Documentation of erosion at Sermermiut with drone, description and field sketches by AO. CP made photos from the same spots as J. Meldgaard in the 1950s and T. Møbjerg in the 1980s. Official access to the site was granted and supported by B. Albrethsen (*Ilulissat Icefjord - UNESCO World Heritage Center*).
- 5 August: AO by *AirGreenland* from Ilulissat to Aasiaat. CP by *AirGreenland* from Ilulissat to Copenhagen.
- 6 August: CP by car from Copenhagen to Jena.

REGISTERED SITES

site 1 meat cache

- heap of stones on northern side of a 2,5x1,0x1,0m large, natural boulder (fig. 8)
- inussuk (20x20x10cm large rock) on top of boulder
- N70°00'57,2"/W051°37'45,8"



Fig. 8: Site 1 (meat cache) – photo by CP.

site 2 caribou hunting drive

The site is situated c. 1km south of Saputit in an area with a pronounced micro-relief. This is in contrast to the fence which is situated north of a wide plain and south of an area with a maize of small hills (fig. 4).

- | | |
|-----|---|
| 2-1 | inussuk
-30x30x15cm large rock on edge of a rocky ridge
-N70°01'25,5"/W051°35'37,1" |
| 2-2 | inussuk
-fallen, 60x30x30cm large rock on narrow rock crevice
-N70°01'27,3"/W051°35'36,2" |
| 2-3 | inussuk
-30x30x30cm large, white, pyramid-shaped rock on top of rock outcrop
-N70°01'27,2"/W051°35'36,0" |
| 2-4 | inussuk
-30x40x10cm large rock on 0,4m high, rocky ridge
-N70°01'25,8"/W051°35'33,5" |
| 2-5 | shooting blind
-u-shaped, 1,0x0,7m large arrangement of eleven, up to 60cm long rocks
-N70°01'25,6"/W051°35'33,7" |

- 2-6 inussuk
-60x50x30cm high pile of eleven, 20-30cm long rocks (fig. 9)



Fig. 9: Inussuit 2-6 (behind the arrow) and 2-7 (in background, left of center) – photo by CP.

- 2-7 inussuk
-20x50x20cm large rock slab on two 35x30x30cm large rocks, all situated on a 0,4m high rock outcrop (fig. 9 and 10)
-N70°01'25,1"/W051°35'32,9"

- 2-8 inussuk
-1m large pile of 15 rocks, formerly with with one 60cm long, now fallen rock in its center (fig. 10)
-N70°01'05,1"/W051°35'32,1"



Fig. 10: Inussuit 2-8 (behind arrow) and 2-7 (left of AO) – photo by CP.

- 2-9 inussuk or natural erratic
-10x40x30cm large rock
-N70°01'25,1"/W051°35'31,6"

- 2-10 inussuk
-30x60x40cm large rock on 0,5x1,5x1,0m large, natural boulder
-N70°01'24,9"/W051°35'30,4"
- 2-11 inussuk
-30x30x30cm large rock on 1,0x4,0x2,5m large, natural boulder (fig. 11)
-N70°01'24,7"/W051°35'28,8"



Fig. 11: Inussuk 2-11 (center right, from north) – photo by CP.

- 2-12 shooting blind
-west/east oriented, semi-circular, 1,0m long and 0,3m deep arrangement of 15 up to 30cm long rocks
-N70°01'24,8"/W051°35'27,4"
- 2-13 shooting blind
-collapsed, west/east oriented, C-shaped arrangement of 19 rocks
-N70°01'24,8"/W051°35'26,8"
- 2-14 inussuk or natural erratic
-fallen, 60x40x10cm large rock
-N70°01'24,6"/W051°35'26,4"
- 2-15 meat cache
-pile of c. 40 rocks at western end of structure 2-16 (fig. 12)
-N70°01'24,4"/W051°35'25,6"



Fig. 12: Meat cache 2-15 – photo by CP.

- 2-16 collapsed, fence-like structure
 -6-7m long, linear arrangement of c. 35 rocks (fig. 13)
 -structure 2-15 at its western end
 -eastern end at N70°01'24,31"/W051°35'25,2"



Fig. 13: Structure 2-16 – photo by CP.

- 2-17 shooting blind
 -1,1m long, u-shaped arrangement of 13 rocks (fig. 14)
 -on natural boulder
 -N70°01'23,9"/W051°35'25,0"

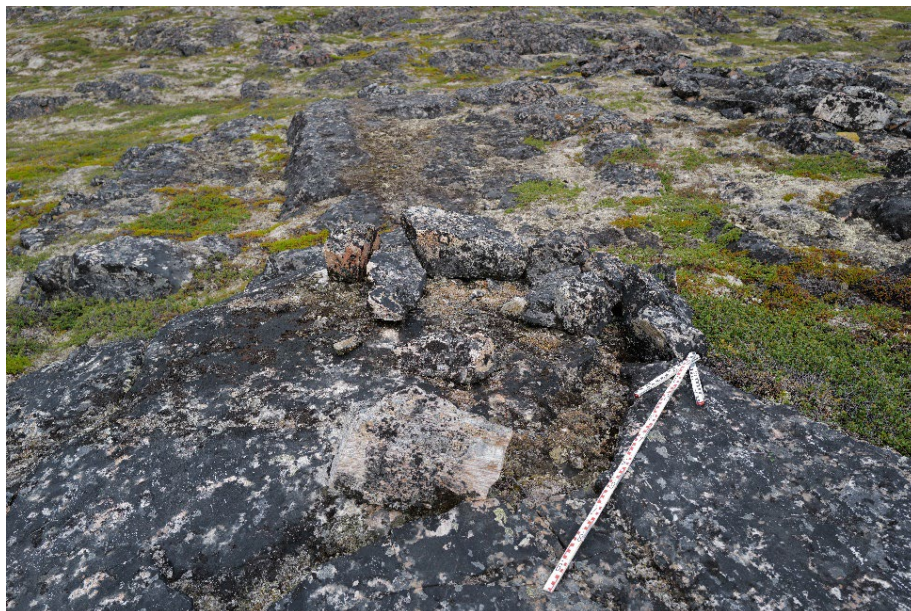


Fig. 14: Shooting blind 2-17 – photo by CP.

- 2-18 inussuk
 -10x30x30cm large rock on natural rock outcrop
 -N70°01'23,4"/W051°35'24,9"

site 3**Jonas Jensen's big caribou fence**

The position of the eastern end of fence is at N70°01'48,3"/W051°39'02,2", the western position at N70°01'49,1"/W051°39'37,9"

The fence is situated at c. 300m a.s.l., where the lower, broad valley of Imerissut narrows to an W/E-running step (fig. 15). Below (south of) the fence the valley is a fertile, grass- and lichen-covered slope which opens to the wide coastal plain between Saqqaq and Saputit (fig. 19).



Fig. 15: Position of site 3 (Jonas Jensen's big caribou fence) from S – photo by CP.

Behind/above (north of) the fence, a high valley starts which is characterized by steep sides and a narrow, boulder-filled bottom with only few spots with grass and lichen (fig. 16).



Fig. 16: Valley just north of site 3 (left) and higher up (right, both pictures from S) – photos by CP.



Fig. 17: Site 3 – drone image by AO.



Fig. 18: Eastern part of site 3 (from N) – drone photo by AO.



Fig. 19: Western part of site 3 (from N) – drone photo by AO.

The fence (fig. 17; 18) starts in the east near the steep valley slope, right beside a narrow boulder field with rocks (fig. 21). These boulders are only slightly covered with black lichen, maybe indicating longer snow cover here. More or less in its center, the fence disappears for few meters in a small boulder field (fig. 17; 20; 21). The western end is c. 5m deeper than the general, more gentle decline of the slope as it is situated right beside the fast current Imerissut which runs right beside the steep western side of the valley (fig. 35). Like the surrounding natural rocks, the stones of the fence are heavily covered with black, leaf-like lichen (fig. 2; 3; 22-29; 31-35). For the length of the fence: see appendix D.

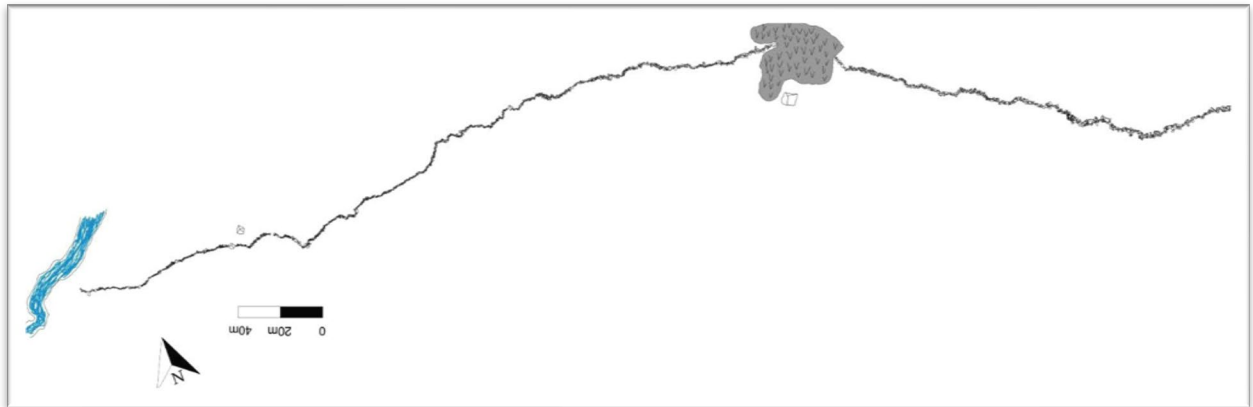


Fig. 20: Site 3 (Jonas Jensen's big caribou fence) – drawing based on drone photo (fig. 17) by AO.

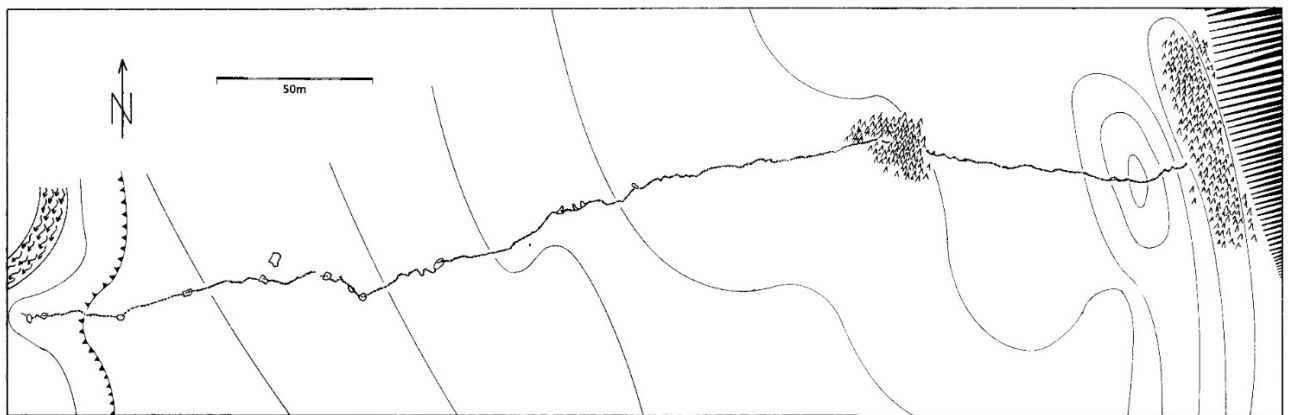


Fig. 21: Site 3 (Jonas Jensen's big caribou fence) – drawing based on field recording by CP by hand with Imerissut (left: arrows) and sketched contour lines to indicate relief. To indicate position of photos (fig. 22-29; 31-35) meter 0 lies at the eastern, meter 390 at the western end of the fence – but see discussion in appendix D for the exact measurement of the length of the fence.

To build the fence, 20-50cm long rocks have been used the most often (fig. 25; 27; 28). These rocks seem to have been taken from the immediate surroundings. The fence is not a straight, linear wall: there are minor deviations from being linear (fig. 20; 21) due to incorporation of few large natural boulders (fig. 21; 29; 32; 33). Most rocks of the fence are not in primary position, especially on steeper sections of the slope (fig. 23). Here, the fence presents itself today as a rock wall (fig. 23; 26) or as a flat, linear arrangement of rocks (fig. 34). However, long parts exist where the fence is still up 70cm high (fig. 28; 33). Some parts

of the fence show a narrow, u-shaped curve protruding downhill (fig. 17; 20; 21). These occur in the central part of the fence and may be shooting hides (fig. 29; 30; 32). However, a re-arrangement of rocks to create or to maintain shooting blinds cannot be ruled out.



Fig. 22: Highest part of the fence (c. 5-15m) – photo by CP.



Fig. 23: Upper part of the fence (c. 15-40m) – photo by CP.



Fig. 24: Upper part of the fence (c. 15-85m) fromW – photo by CP.



Fig. 25: Detail of the upper part of the fence (c. 75m) – photo by CP.



Fig. 26: Central part of the fence (c. 120-150m) – photo by CP.



Fig. 27: Detail of the central part of the fence (c. 150m) – photo by CP.



Fig. 28: Detail of the central part of the fence (c. 150m) from S – photo by CP.



Fig. 29: Detail of the central part of the fence (c. 190-200m) from NW – photo by CP.

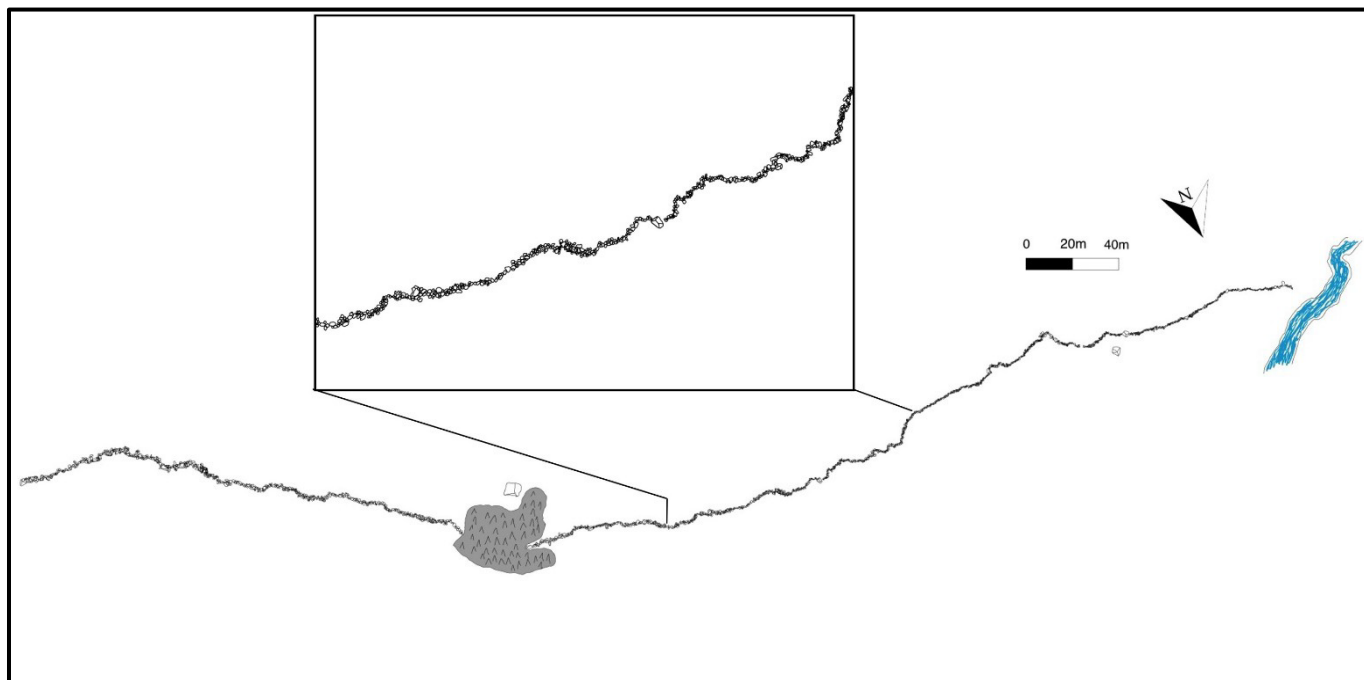


Fig. 30: Detailed drawing based on drone photos of the central part of the fence – drawing by AO.



Fig. 31: Central part of the fence (c. 200-240m) from W – photo by CP.



Fig. 32: Central part of the fence (c. 200-255m) from W – photo by CP.



Fig. 33: Central part of the fence (c. 200-265m) from W – photo by CP.



Fig. 34: Lower part of the fence (c. 200-330m) from W – photo by CP.



Fig. 35: Lowest part of the fence (370-390m) from N – photo by CP.

Site 4 inussuk

-two 10x30x20cm large rocks on 0,8x2,0x0,5m large, natural boulder (fig. 36)

-N70°02'17,8"/W051°39'33,4"



Fig. 36: Site 4 (inussuk). – photos by CP

Site 5 large, rectangular animal trap

- cage-like trap built with many large (largest is >1m long) and heavy stones (fig. 37)
- outside 160x80x70cm
- entrance 40x40cm
- N70°01'16,3"/W051°40'36,7"



Fig. 37: Site 5 (animal trap) – photo by CP.

References

Boertmann 2004:

D. Boertmann (Ed.) *Background studies in Nuussuaq and Disko, West Greenland*. National Environmental Research Institute Technical Report 482 (Copenhagen 2004).

Cuyler 2005:

C. Cuyler, Caribou recovery and coexistence with introduced feral reindeer on the Nuussuaq Peninsula (70-71°N), West Greenland. *Rangifer Special Issue* 16, 2005, 137-142.

Mathiassen 1934:

T. Mathiassen, *Contributions to the archaeology of Disko Bay*. Meddelelser om Grønland 93/2 (København 1934).

Meldgaard 1986:

M. Meldgaard, *The Greenland caribou - Zoogeography, taxonomy, and population dynamics*. Meddelelser om Grønland - Bioscience 20 (Copenhagen 1986).

Nellemann 1969/1970:

G. Nellemann, Caribou hunting in west Greenland. *Folk* 11-12, 1969-70, 133-153.

Nellemann 1970:

G. Nellemann, Rensdyrjagten i Vestgrønland: jagtmetoder i fortid et nutid. *Tidsskriftet Grønland* 1970, 289-308.

Neubeck/Pasda 2019:

V. Neubeck and C. Pasda, *Archaeological survey on the Nuussuaq Peninsula (West Greenland) in 2019 – Fieldreport*. University of Jena (Jena 2019). https://www.academia.edu/41071473/Archaeological_survey_on_the_Nuussuaq_Peninsula_West_Greenland_in_2019_Field_report.

Odgaard 2018:

U. Odgaard, Driving caribou - Greenlands hunting drive systems and ethical aspects. In: K. Carlson/L.C. Bement (Eds.) *The archaeology of large-scale manipulation of prey* (Louisville 2018) 63-95.

Ostermann/Porsild 1921:

H. Ostermann and M. Porsild, Ritenbenk Distrikt. In: G.C. Amdrup et al. (Eds.) *Grønland i tohundredaaret for Hans Egedes landing*. Meddelelser om Grønland 60 (København 1921) 209-271.

Pasda 2022:

C. Pasda, A caribou hunting drive at Nernartuut (Nuussuaq, Northwest Greenland). *Quartär* 69, 2022, 179-202.

Pasda in press:

C. Pasda, Archaeological research on prehistoric and historic caribou hunting in West Greenland - An example from Nuussuaq. In: J. Beutmann et al. (Eds.) *On melting ground - Arctic Archaeology* (Bonn, in press).

Pfeifer 2016:

S. Pfeifer, *Die Geweihfunde der magdalénienzeitlichen Station Petersfels*. Forschungen und Berichte zur Archäologie in Baden-Württemberg 3 (Wiesbaden 2016).

Porsild 1920:

M. Porsild, On Eskimo stone rows in Greenland formerly supposed to be of Norse origin. *The Geographical Review* 10, 1920, 297-309.

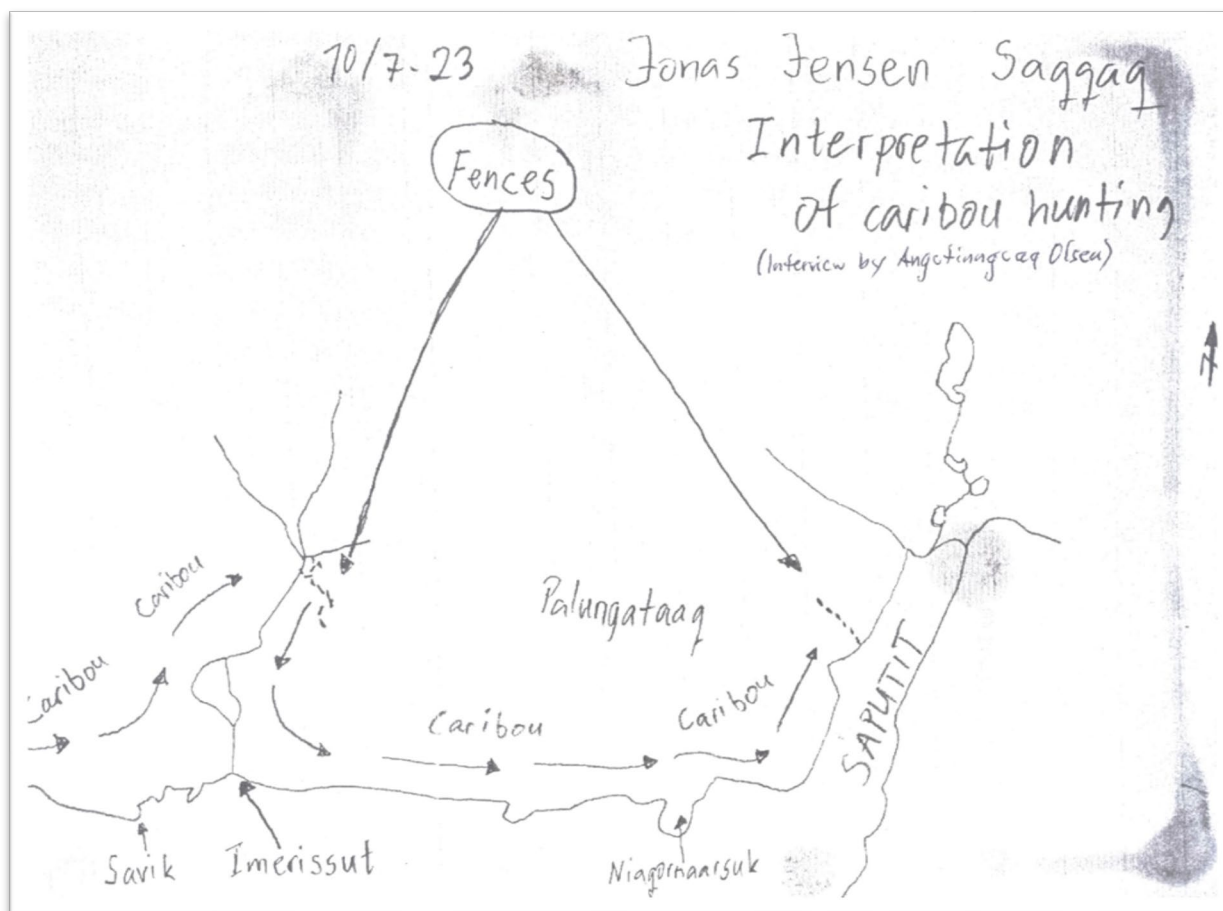
Wegeberg/Boertmann 2016:

S. Wegeberg/D. Boertmann (Eds.) *Disko Island and Nuussuaq Peninsula, West Greenland – A strategic environmental impact assessment of petroleum exploration and exploitation*. Scientific Reports from the Danish Centre for Environment and Energy 199 (Aarhus 2016).

Appendix A: Orthomosaic image of the fence at Saputit – photo by AO.



Appendix B: Caribou hunting between Saqqaq and Saputit as told by Jonas Jensen – interview and sketch by AO (Saqqaq, 10 July 2023).

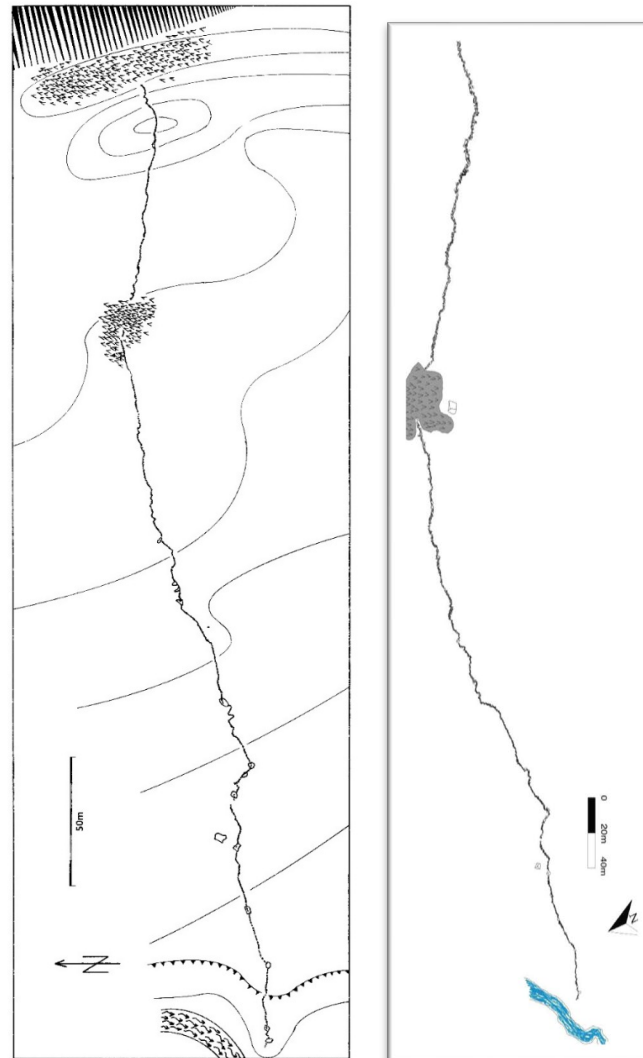


Appendix C: Information on caribou distribution in the southeastern part of Nuussuaq.

A survey by wildlife biologists in April 2002 (Boertmann 2004; Wegeberg/Boertmann 2016; Cuyler 2005) indicated presence of at least 1200 caribou on Nuussuaq, most of them in the eastern part of the peninsula. In winter, caribou prefer valley bottoms and south-facing slopes but stay inland mainly. Information from local hunters on caribou hunting between 2008 and 2015 show that the plain between Marraat and Niaqornaarsuk is a hotspot of caribou hunting in the fall (Wegeberg/Boertmann 2016, fig. 9). Shed antlers (fig. 7) indicate presence of large caribou bulls in fall around the mouth of Imerissut. Further information was given to AO in 2023 and 2024: according to Jonas Jensen (Saqqaq) caribou spend winter and spring between Saqqaq and Saputit. Frantz R. Olsen (Asiaat) was told by local hunters that in winter up to 500 caribou were seen at Saputit and on the sea ice of Saputit Bay.

Appendix D: Comparison of field recording by hand (left) and drone (right).

Field recording of site 3 by drone (right) allows an assessment of the accuracy of the documentation of a long linear, archaeological structure by hand in scale 1:1000 with a compass, a 20m long tape measure and a 2m long meter rule (left).



The hand drawing (left) documents the course of the structure with its bends and edges more or less accurately. This observation is important as impression in the field and photos (fig. 31) imply major curves which do not exist.

Due to the huge difference in altitude between the high, eastern and the low, western end of the fence, documentation by hand distorts the proportions of the structure. The major consequence of this observation is the mis-measurement of the total length of the fence (as a linear line from E to W) which is c. 355m in the hand drawing (left) but is, due to drone documentation, c. 555m in reality (right).

However, an important result has to be emphasized for field research which tries to cover large and remote areas unsupported and by foot over weeks, thus with as little equipment as possible: when high-tech documentation fails (due to bad weather, technical problems etc.), detailed documentation by hand does not provide totally unprecise data.

ACKNOWLEDGMENT

Fieldwork was funded by the *Deutsche Forschungsgemeinschaft* (project no. 413882193) and supported by *Ilulissat Museum* (Ilulissat, Greenland). Jonas Jensen (Saqqaa, Greenland), Hans Logé (Munich, Germany) and Frantz R. Olsen (Aasiaat, Greenland) gave information and photos: *Qujanarujussuaq* and *Tausend Dank!*

ADRESS OF AUTHORS

Angutinnguaq Olsen
Greenland National Museum & Archives
Hans Egedesvej 8
3900 Nuuk
Greenland
anols@arkiv.gl

Clemens Pasda
Universität Jena
Institut für Orientalistik, Indogermanistik, Ur- und Frühgeschichtliche Archäologie
Löbdergraben 24a
07743 Jena
Germany
clemens.pasda@uni-jena.de