



University of Edinburgh

**‘The Farm Beneath the Sand’ – an
archaeological case study on ancient
‘dirt’ DNA**

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The Farm Beneath the Sand

- The overall goal of the study was twofold:
- Investigate to what extent DNA is preserved in this kind of anthropogenic sediments
- Explore if the DNA can be used in a quantitative assay

The Farm Beneath the Sand

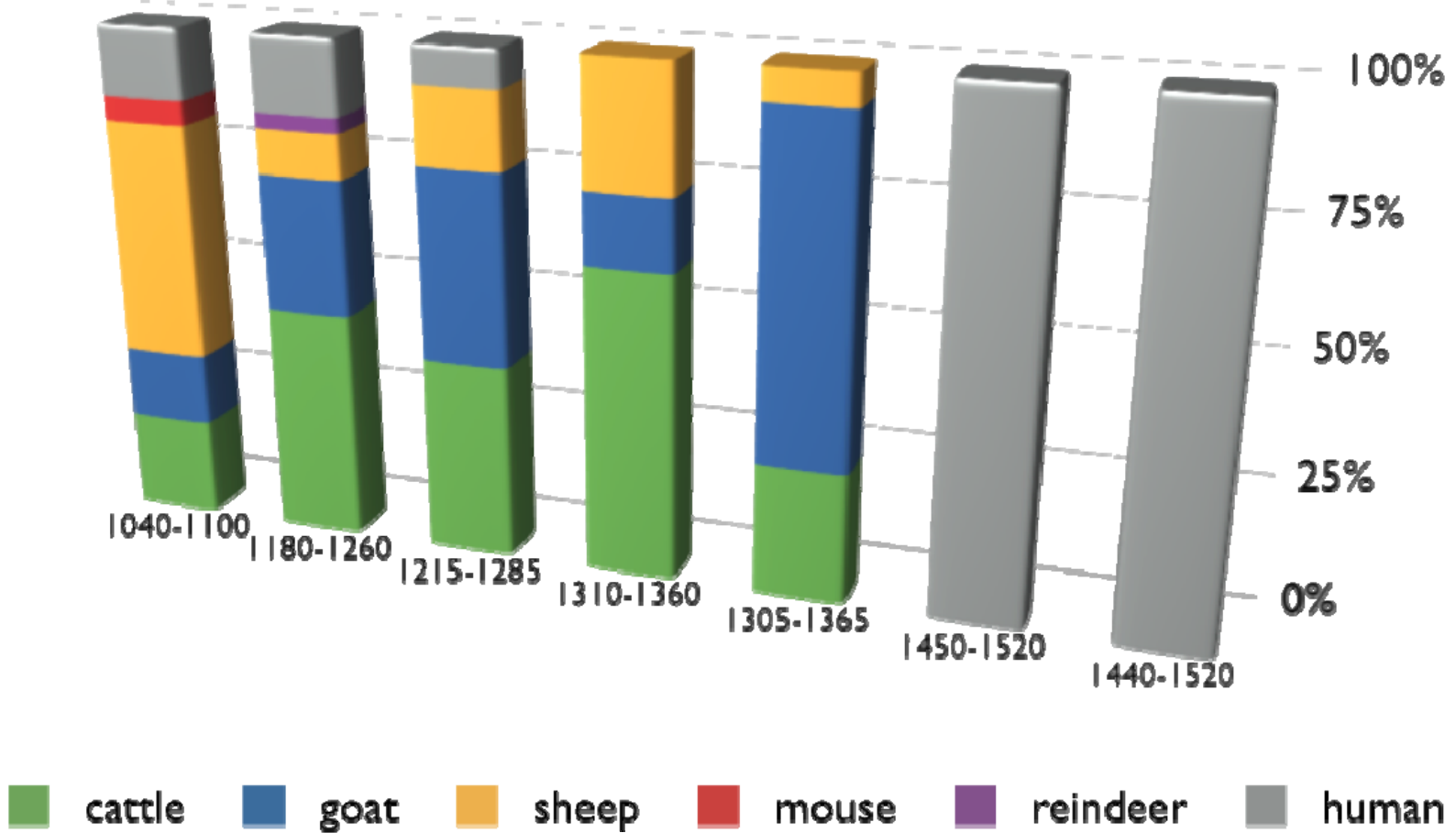
- Date the samples to make sure they represented the true chronology



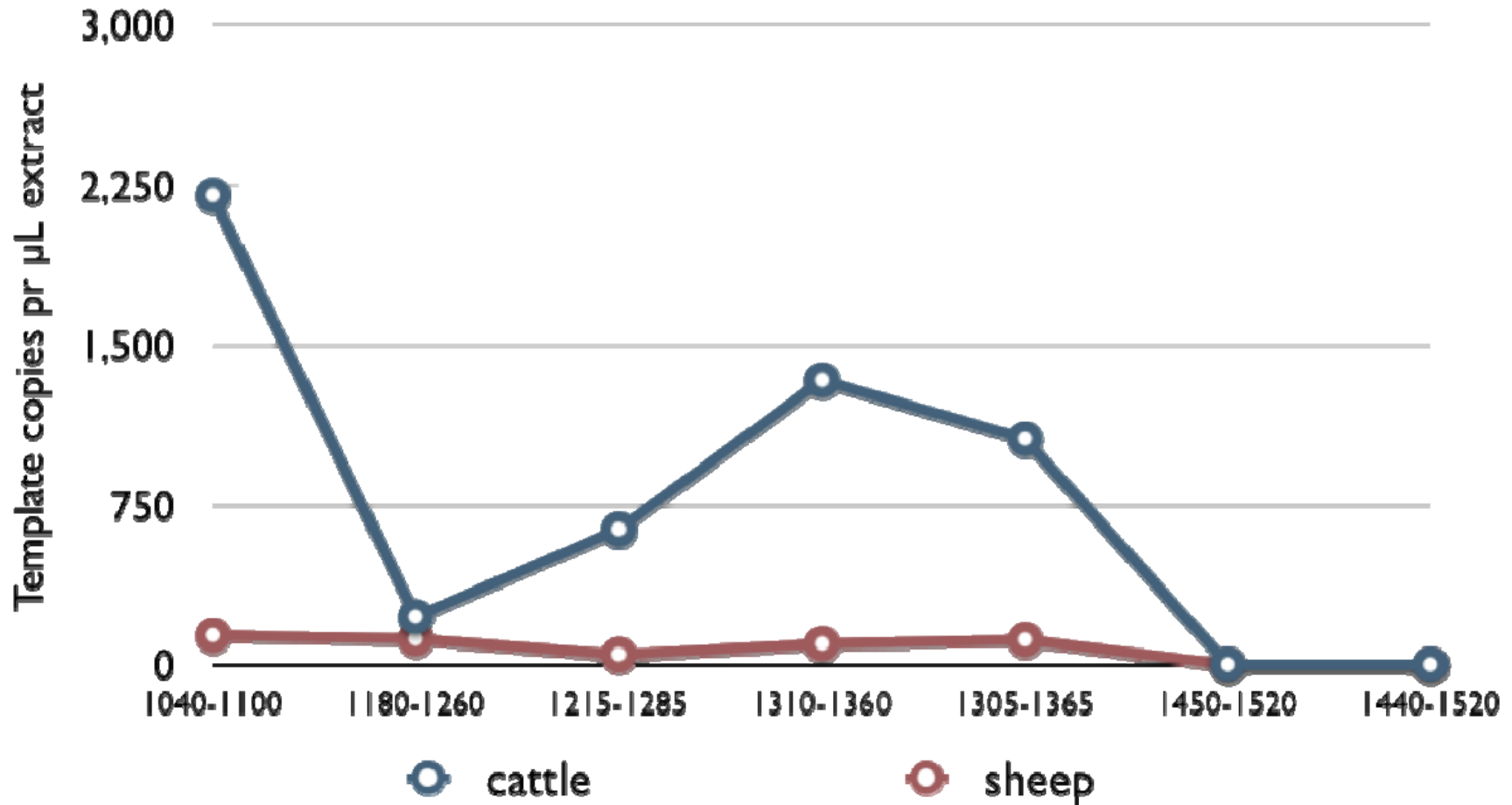
The Farm Beneath the Sand



Taxonomic diversity



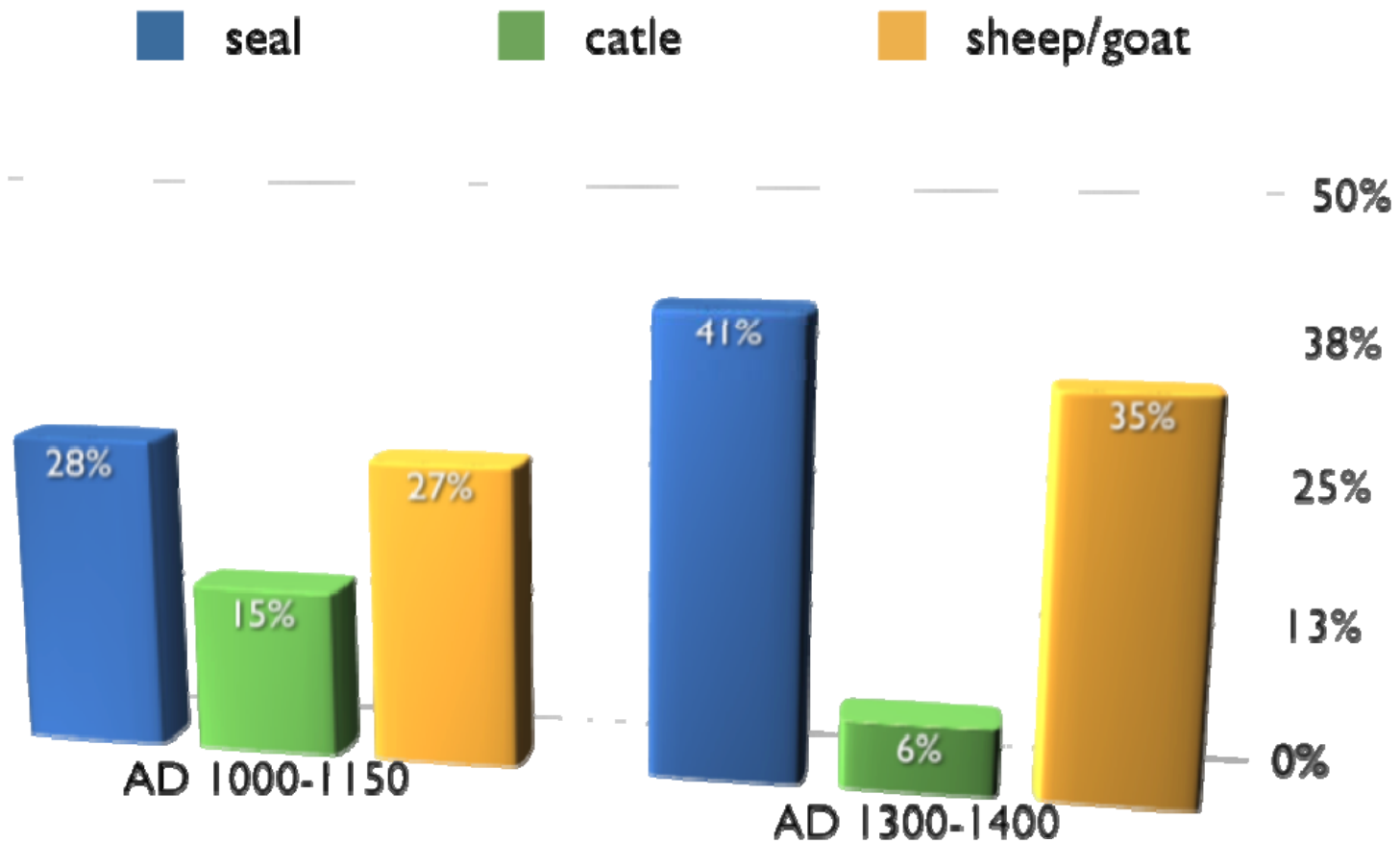
Quantitative DNA analysis



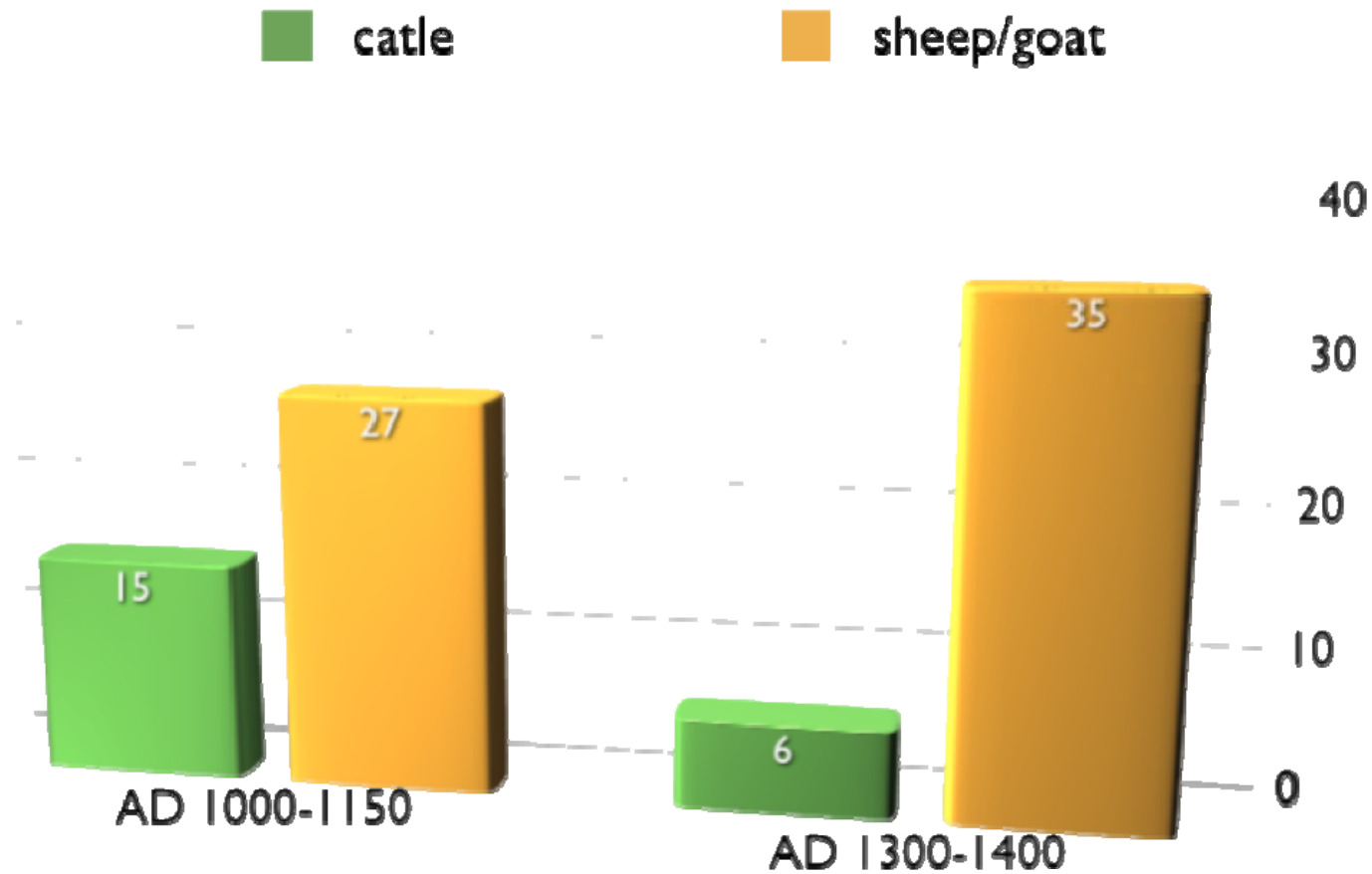
Conclusions



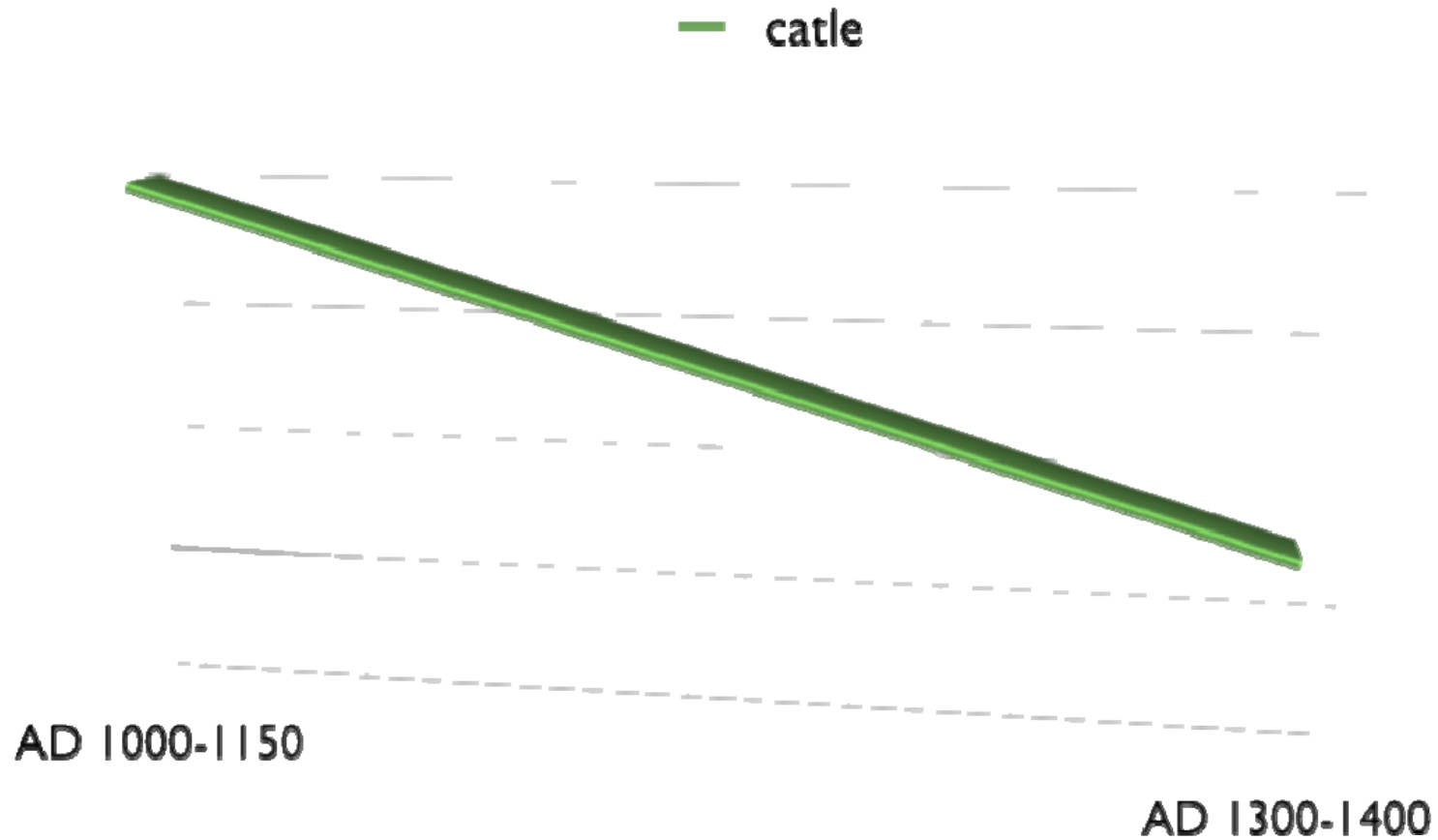
DNA vs bones



DNA vs bones



DNA vs bones



Interpretation

- The results from archaeological excavations and DNA samples support each other.

Interpretation

- First promising DNA-analysis
- Suggest active fertilising of the home fields

Interpretation

- Soil samples can be used to identify the presence humans, animals and plants.

Interpretation

- The method is new in the research field of Norse archaeology and is expected to provide evidence of function, outline home fields and modes of production, as well as investigate diachronic changes in the subsistence economy.

Research Plan (E66)

- The aim of the investigation of E66 is to develop the method and the use of soil samples from sections to:
 - Determine the function of enclosures and ruins
 - Help assess the economy of the farms

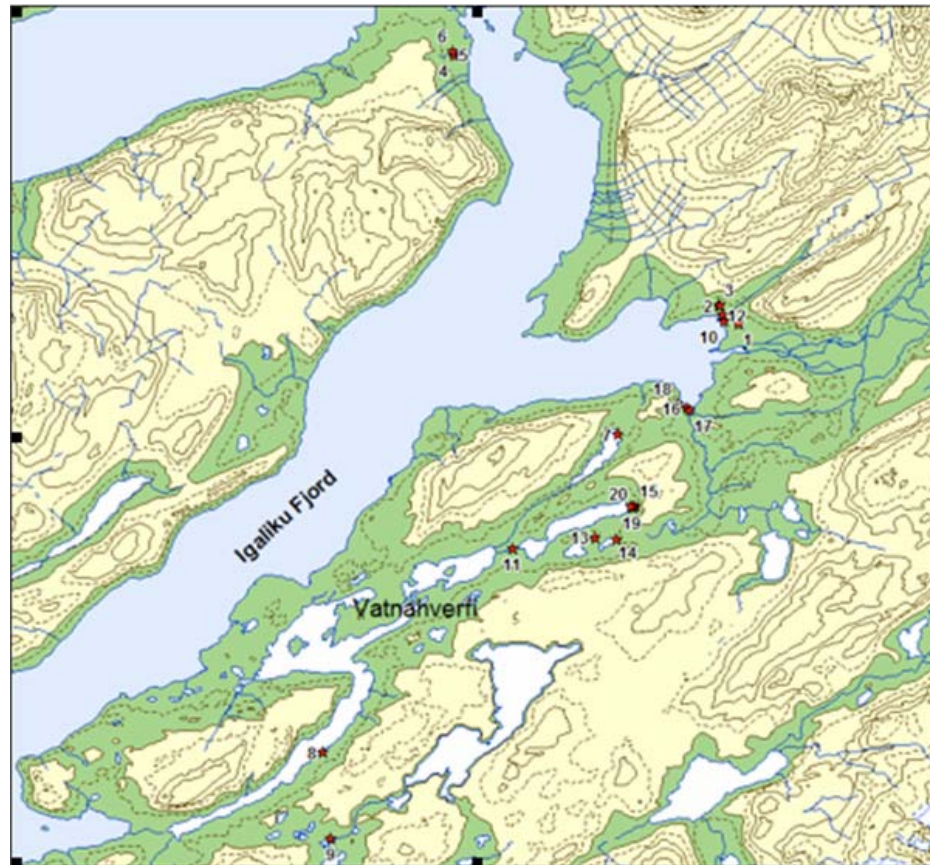
Research Plan (E66)

- The development of this method will generate new insight into the economy of the Norse Greenlanders
- help to outline and designate future investigations on archaeological structures and their use, e.g. discover the exact function of specific enclosures

Research Plan (E66)

- 70 samples were retrieved from the DNA-trenches and excavation section

Research Plan (E66)



Distribution of the DNA-trenches