

Greenland Isotope Project

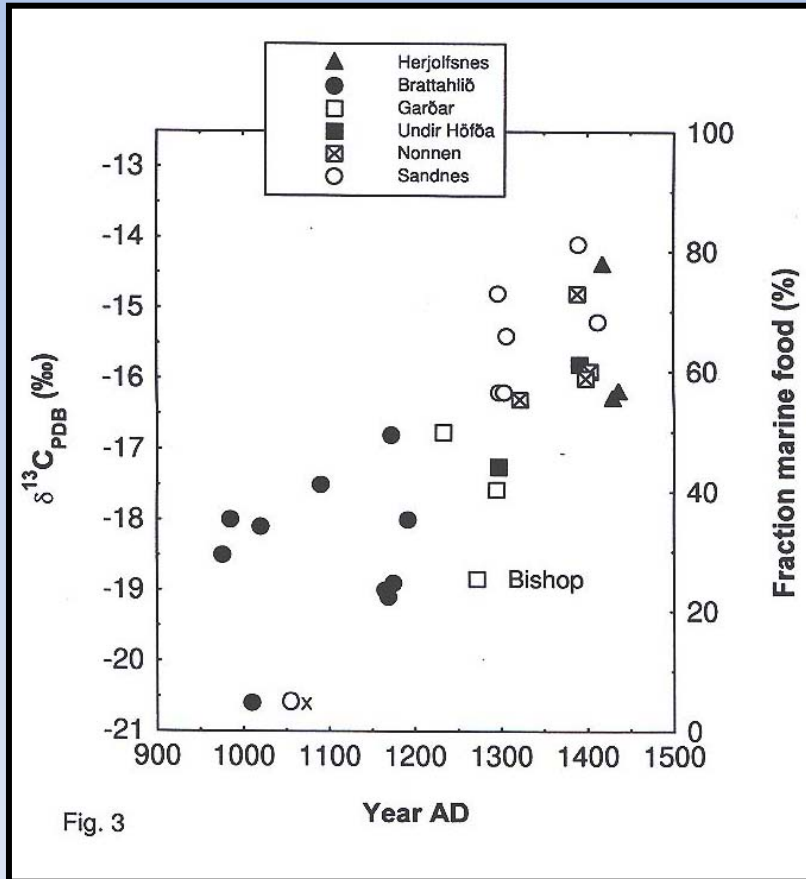
Diet in Norse Greenland
AD 1000 – AD1450

Jette Arneborg



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Initial study



The ¹³C values measured in Norse Greenland human bones suggested a change in Norse Greenland diet from predominantly terrestrial food to predominantly marine food.

Questions left open: Was the changes due to:

- Altered subsistence strategies ?
- Altered farming practices (e.g. feeding with seaweed and/or fish and seal refuse)?

Other questions :

- Differences between the two settlement areas?
- Differences between individual farms?
- Differences between sexes?
- What kind of marine food was digested?



The dataset

183 samples of human bone

118 Norse

65 Inuit

254 samples of animal bones

Domesticates: Cattle, sheep, goat, pig, horse & dog

Wild animals: seal, walrus, narwhale, whale, caribou, muskoxen & hare

43 human bones have been AMS dated

38 animal bones have been AMS dated

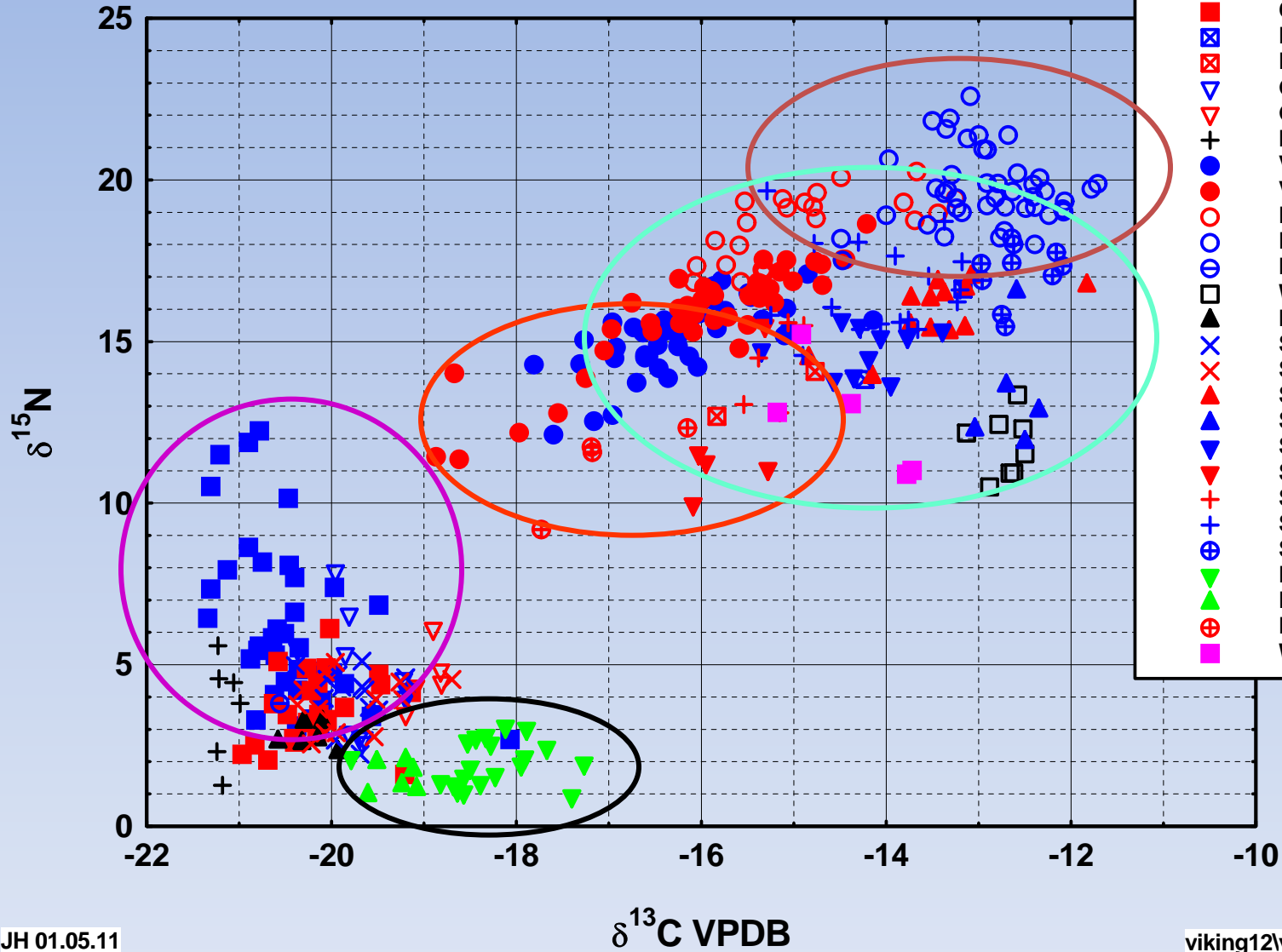


The research group

- Jan Heinemeier. AMS Dateringslaboratoriet, Aarhus Universitet
- Niels Lynnerup, Section of Forensic Pathology, Copenhagen University
- Jeppe Møhl, Zoological Museum, Copenhagen University
- Erle Nelson, Simon Fraser University, Vancouver
- Jette Arneborg, National Museum, Copenhagen



Greenland Norse Project, May 2001



- Cow West S
- Cow East S
- ⊠ Dog West S
- ⊠ Dog East S
- ▽ Goat West S
- ▽ Goat East S
- + Horse
- Viking West S
- Viking East S
- Eskimo Eastcoast
- Eskimo Westcoast
- Hare
- Whalrus
- ▲ Musk
- × Sheep West S
- × Sheep East S
- ▲ Seal Cyst. East S
- ▲ Seal Barb. E&W S
- ▼ Seal Groenl. West Coast
- ▼ Seal Groe. East Coast
- + Seal hisp. East Coast
- + Seal hisp. West Coast
- ⊕ Seal Vitul. West Coast
- ▼ Reindeer West S
- ▲ Reindeer East Coast
- ⊕ Pig East S
- Whale

JH 01.05.11

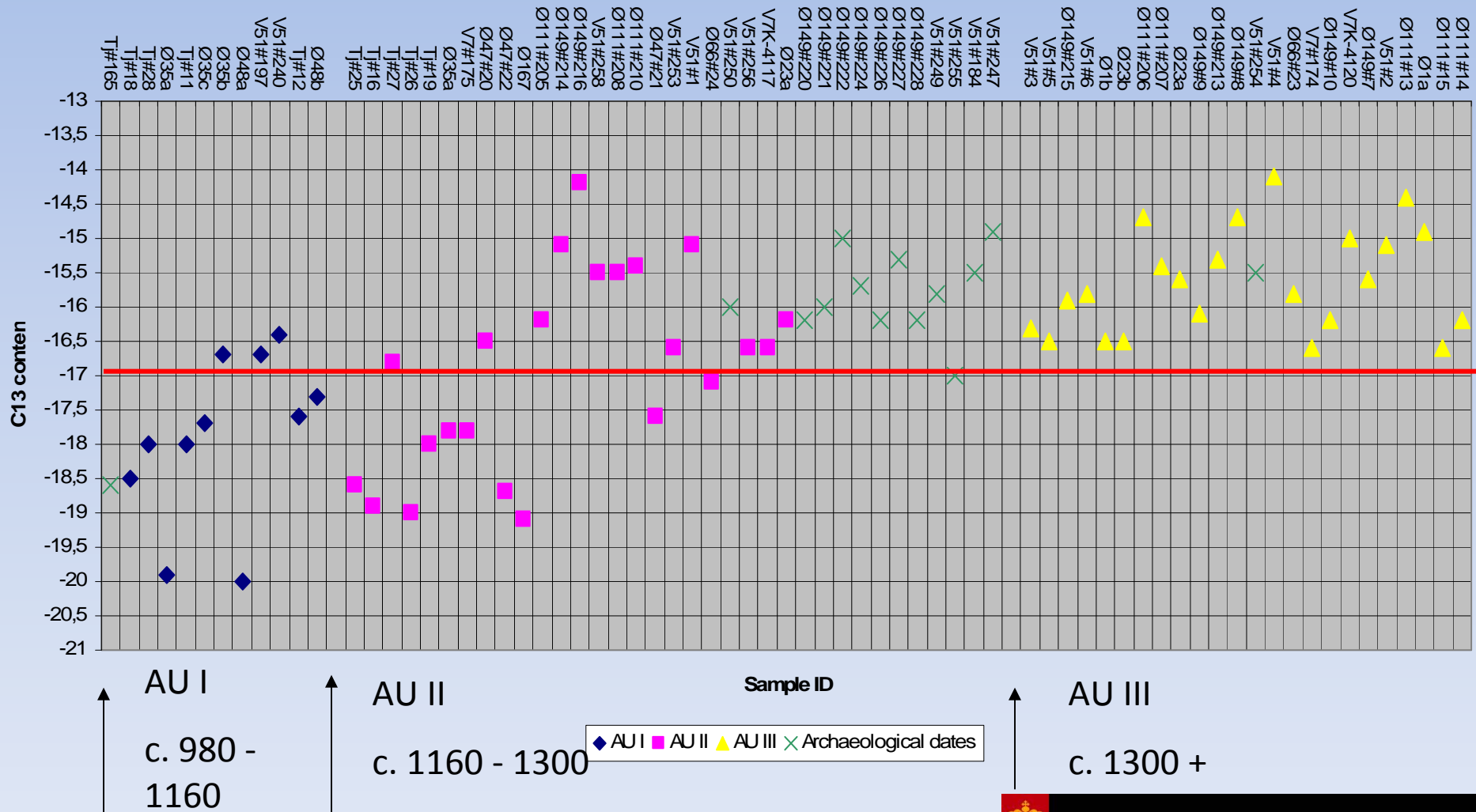
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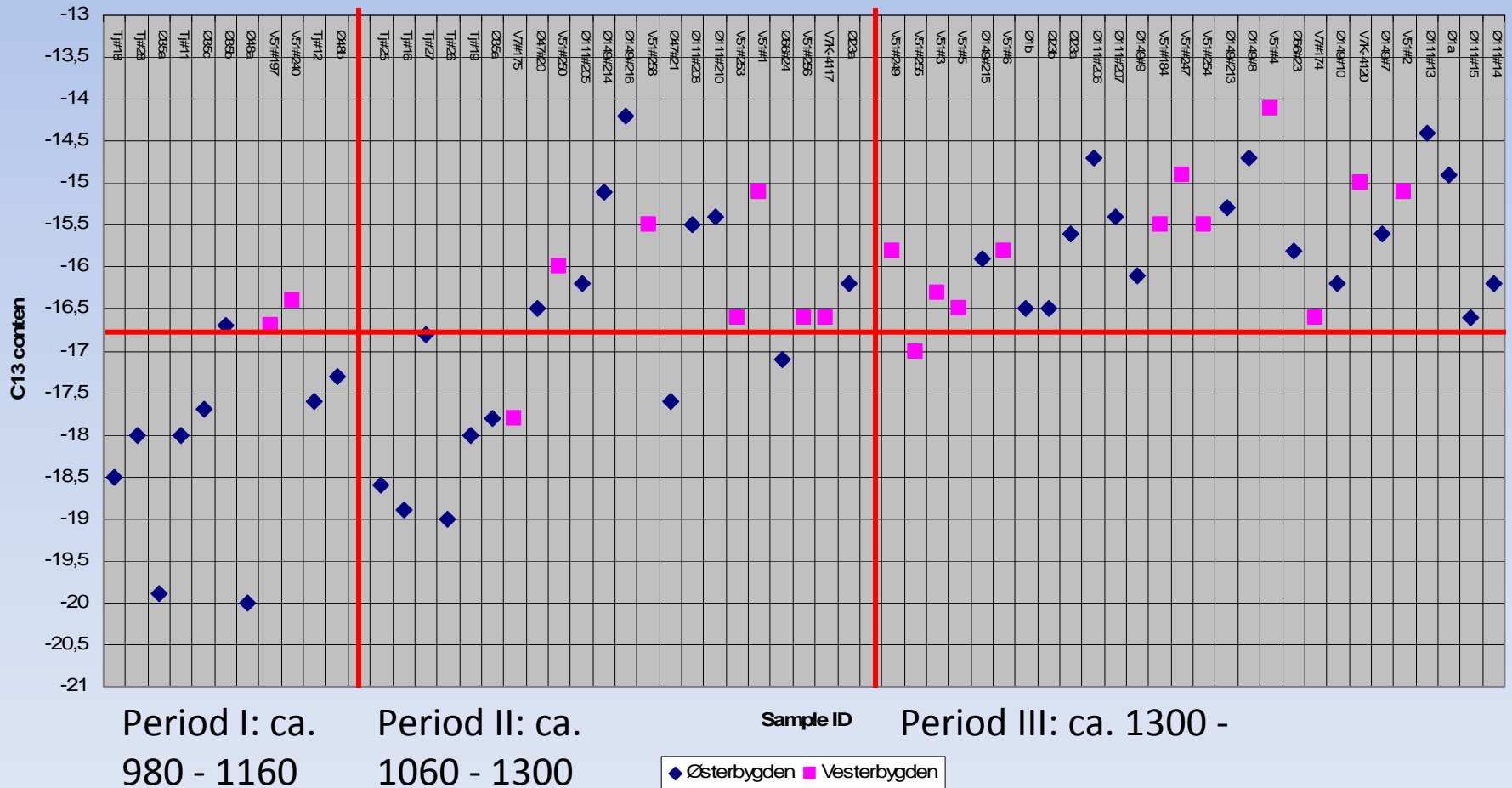
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AMS dated Human samples

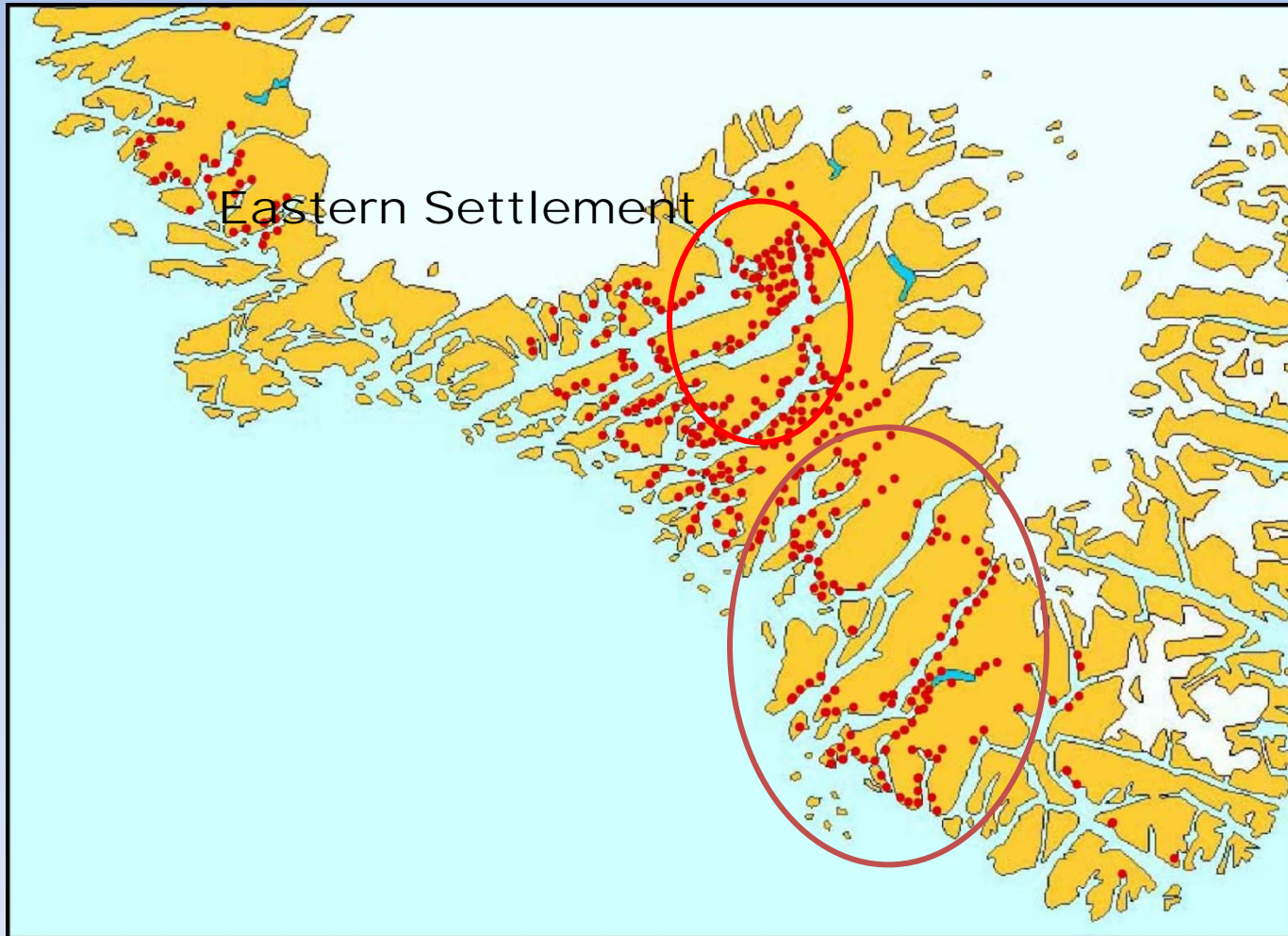
Analytic units



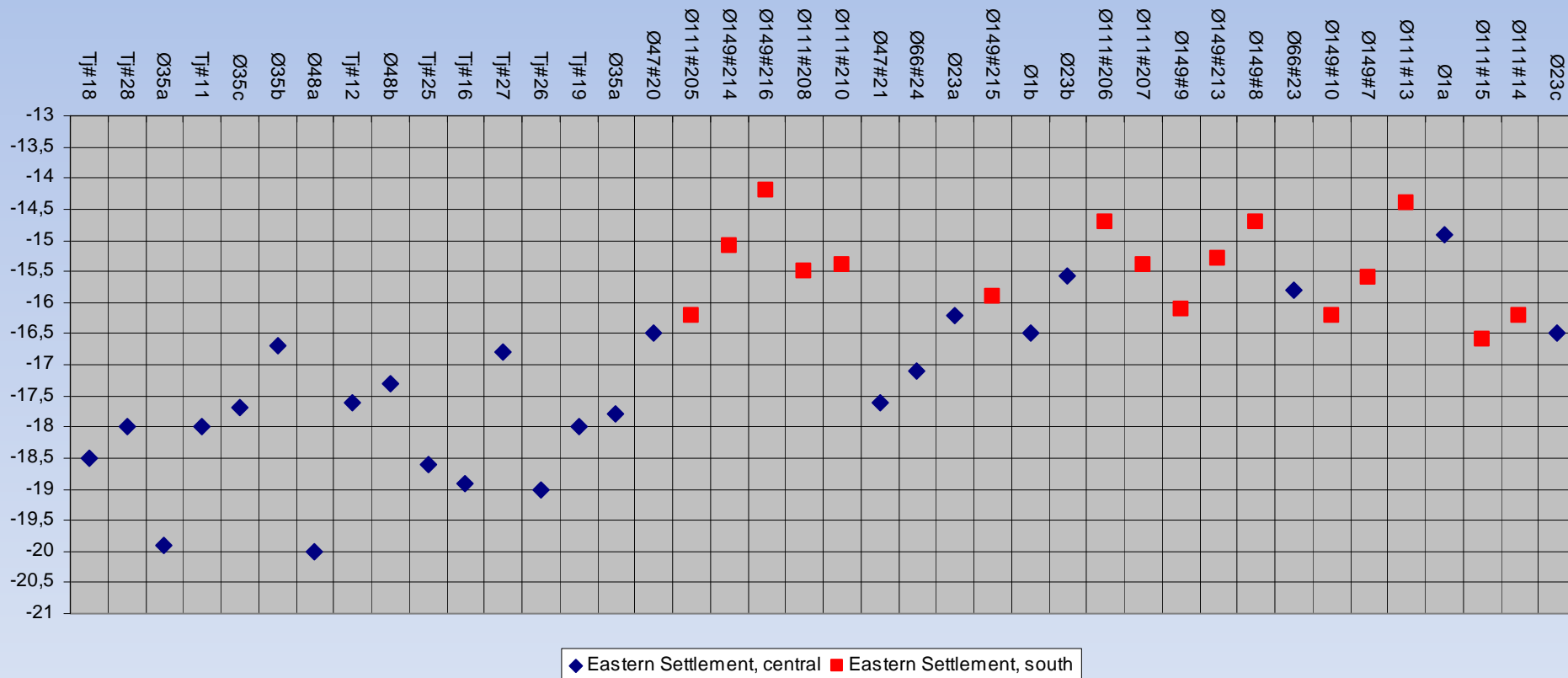
Eastern Settlement vs Western Settlement



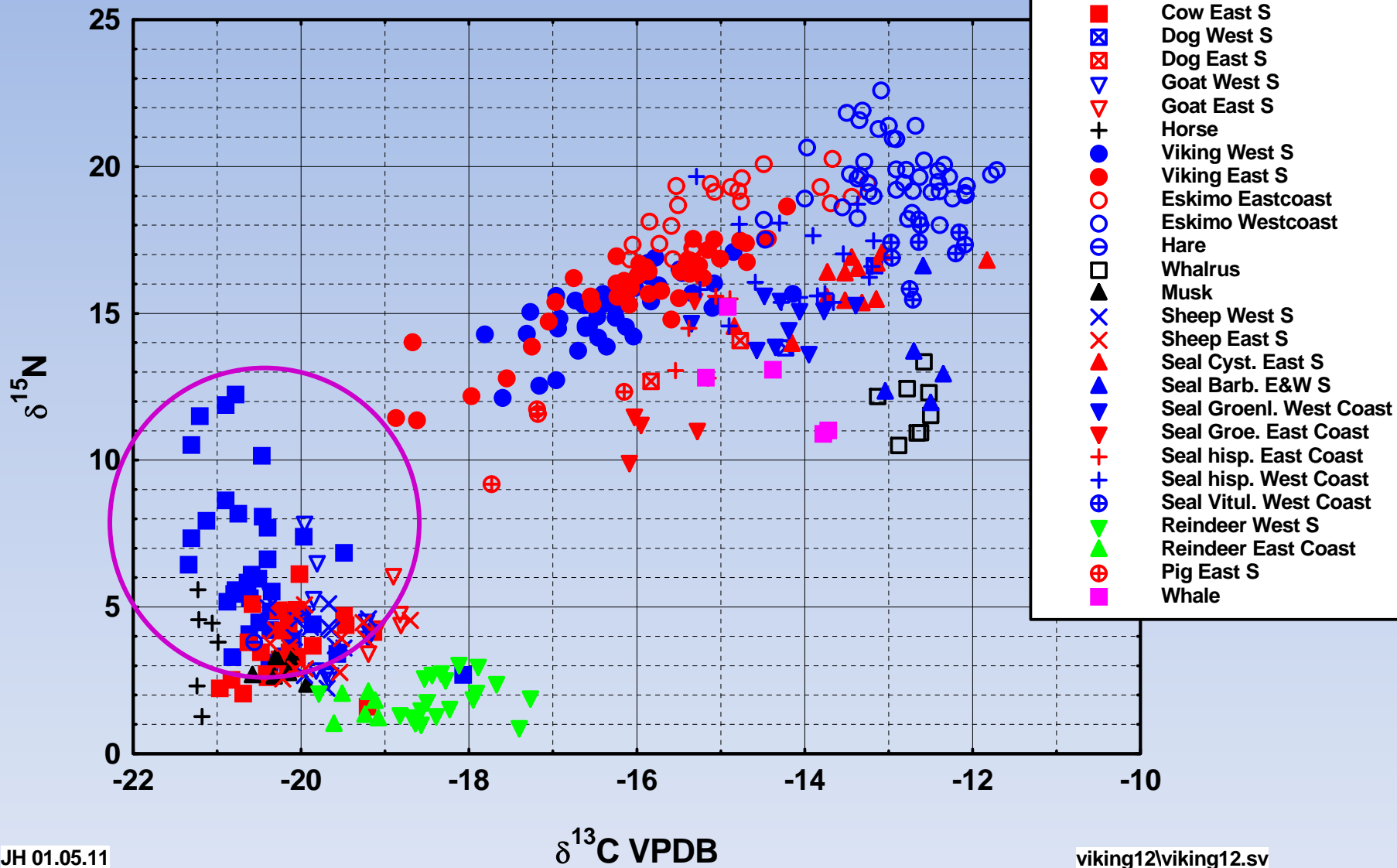
Eastern Settlement



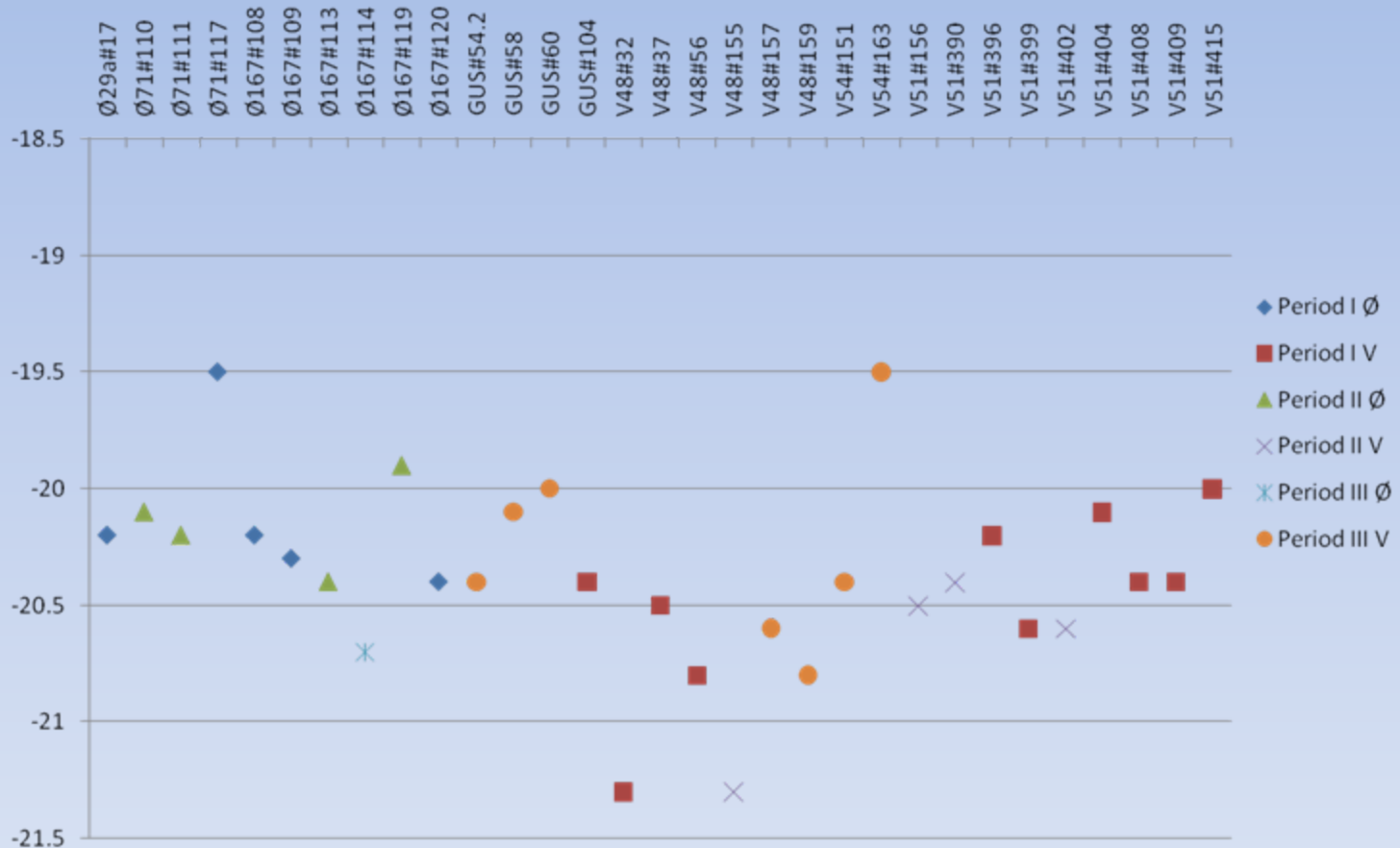
Human samples
Eastern Settlement central vs. Eastern Settlement, south
Chronology AD ca 980 - AD ca 1450 (left to right)



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13C Cattle



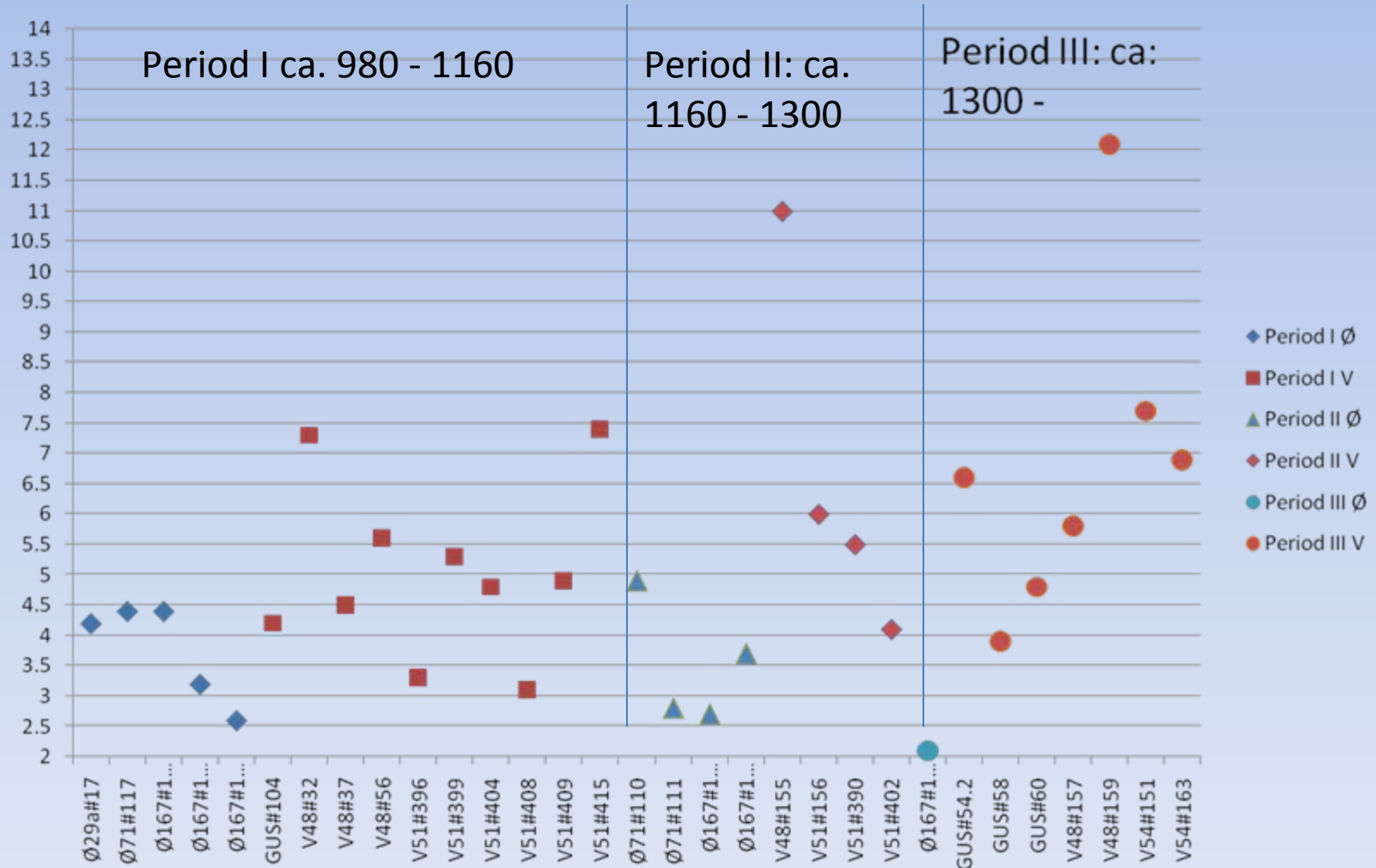
Period I: ca. 980 – 1160

Period II: ca. 1160 – 1300

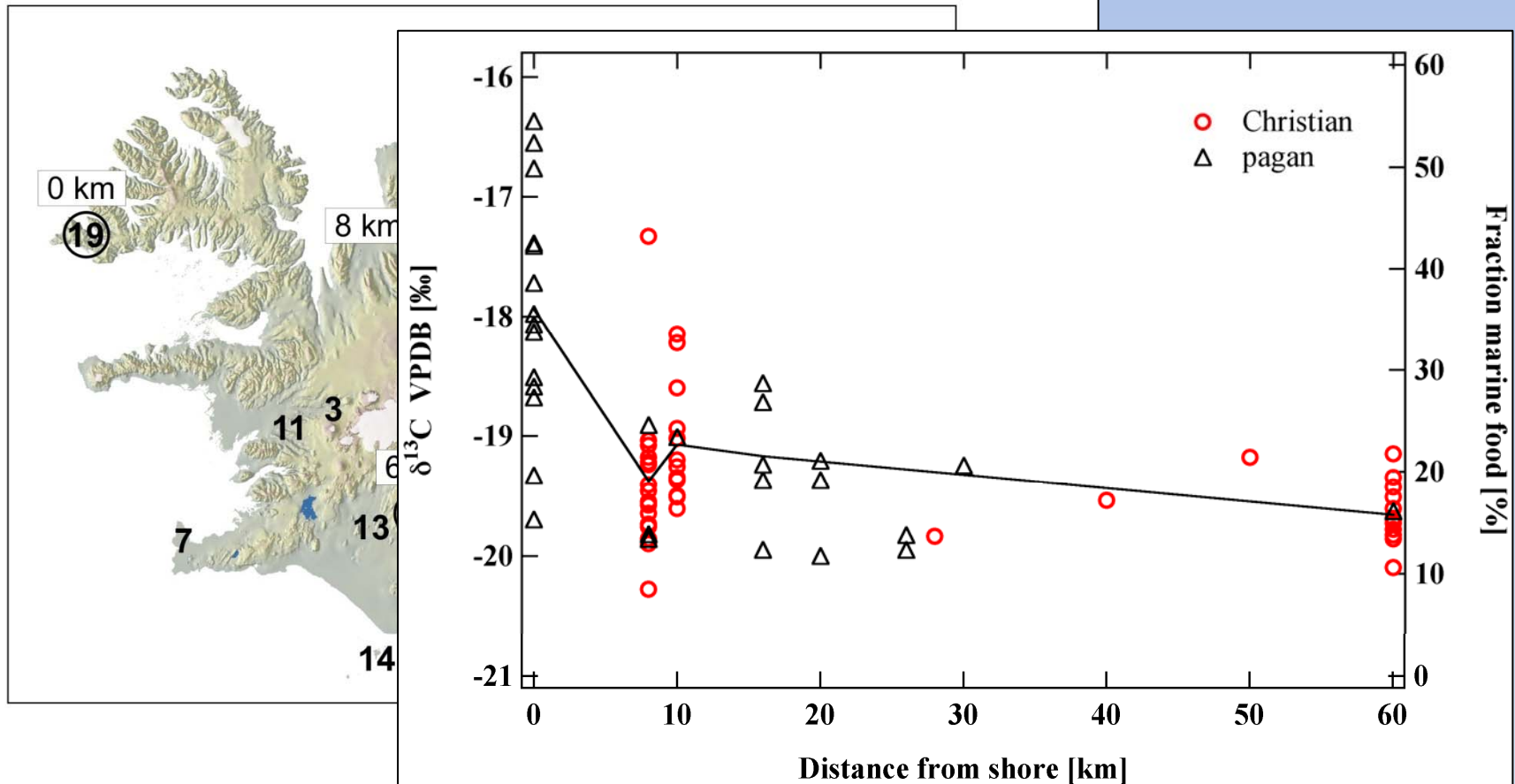
Period III: ca. 1300 -



15N Cattle



Icelandic localities



Some conclusions

- Norse Greenland dietary economy changes from a predominantly terrestrial diet to a predominantly marine diet.
- We see no changes in farming practices – the differences in ^{15}N between the Eastern and the Western Settlement could be different farming practices (manuring?) or it was caused by for instance geographical, environmental differences.
- Our dataset indicates differences in the dietary economy between the central part of the Eastern Settlement and the southern part. The southern part of the Eastern Settlement and the Western Settlement are more or less similar.
- We can not see differences between individual farms (due to the dataset – we do not know where the sampled humans came from – we know of the church where they were buried).
- We can not see any differences between the sexes.
- Seals must have been the most important meat suppliers – we can however not say anything about the impact of fish.
- In Iceland the dietary economy reflects geography – in Greenland it does not.

