

Supplementary Material

A late 3rd-century AD metalworking yard at Wijnaldum (prov. of Friesland, the Netherlands) and its smithy floor. A contextual, metallurgical and micro-morphological reference description

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This paper describes a metalworking yard from the 3rd and early 4th century AD, which was excavated in 1993 in the terp settlement known as Wijnaldum-Tjitsma (NL) (Besteman et al. 1999; Nieuwhof 2020). This site is situated in a dynamic salt-marsh landscape. We describe the various features that belong to the workshop and provide a micromorphological description of one of its components: a smithy floor. The reconstructed houses and adjacent metalworking yard provide data for the production of several, different metals, besides iron. The Wadden Sea region itself is devoid of metal ores though rich in cattle that probably provided surplus. The metals recovered in Wijnaldum largely come from scrap probably obtained through exchange with Germanic communities to the South and East and also with the Roman Empire. Based on the examination of the metallurgical and other traces in the yard, a contextual interpretation is given of the metalworking activities and the degree of specialisation achieved.

The Supplementary Material presents the data on the metalworking debris found in Wijnaldum-Tjitsma in the metalworking yard and its immediate surroundings, also including the area surrounding the two adjacent houses and two ditches north of the metalworking yard. The data is derived from the database created by Tulp (1996).

The data is presented in the tables by category, providing find numbers and context information.

Contents

1. Iron slag
2. Cinders
3. Furnace wall fragments
4. Smithy floor
5. Copper and copper alloy
6. Crucibles and moulds
7. Copper and silver coins
8. Brooches
9. Lead

References

Besteman JC, Bos JM, Gerrets DA, H.A. Heidinga HA and de Koning J (eds) 1999, *The excavations at Wijnaldum. Reports on Frisia in Roman and Medieval times. Volume I* (Rotterdam/Brookfield).

Erdrich M 1999, 'Continuity or discontinuity: Native and Roman metal finds', in JC Besteman, JM Bos, DA Gerrets, HA Heidinga and J de Koning (eds), *The Excavations at*

Wijnaldum. Reports on Frisia in Roman and Medieval times. Volume I (Rotterdam/Brookfield), 171-184.

Henderson J 1999, 'Scientific analysis of the glass and the glass-bearing artefacts: Technique, raw materials used and archaeological interpretation', in JC Besteman, JM Bos, DA Gerrets, HA Heidinga and J de Koning (eds), *The excavations at Wijnaldum. Reports on Frisia in Roman and Medieval Times I* (Rotterdam/Brookfield), 287-297.

Nieuwhof A (ed) 2020, *The excavations at Wijnaldum. Volume 2: Handmade and wheel-thrown pottery of the first millennium AD* (Groningen: Groningen Archaeological Studies 38).

Tulp C 1996, Metaalbewerking op de terp Tjitsma. De bewerking van ijzer, koper en edelmetaal van de 2^e tot en met de 10^e eeuw na Chr. op Tjitsma (Wijnaldum, Friesland). (Groningen: Unpublished MA-thesis).

Van der Vin, JPA 1999, in JC Besteman, JM Bos, DA Gerrets, HA Heidinga and J de Koning (eds), *The excavations at Wijnaldum. Reports on Frisia in Roman and Medieval Times I* (Rotterdam/Brookfield), 185-189.