

Ancient Monuments Laboratory
Report 25/86

EXAMINATION OF METALWORKING WASTE
FROM SITE A, THETFORD, NORFOLK.

P T Wilthew

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Summary

Slag, hearth lining and one crucible from 10th and 11th century contexts was examined and where appropriate analysed by X-ray fluorescence. Evidence for both iron smithing and iron smelting was found, and both activities almost certainly took place on or near the site during this period, but probably only on a small scale. The crucible had been used to melt silver.

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Examination of Metalworking Waste from Site A, Thetford, Norfolk

Samples of possible technological significance from the excavations carried out at Site A, Thetford were examined. They included slag, hearth lining and one crucible. The crucible was analysed elementally using qualitative X-ray fluorescence (XRF). Identifications of the samples are given in the appendix and the material is discussed below.

Apart from the crucible all the material examined either was or, in the case of the hearth lining, probably was, associated with iron working. The material included iron smithing slag, hearth bottoms and tap slag. Both the iron smithing slag and the hearth bottoms are produced during iron smithing, whereas tap slag is slag which has been allowed to flow from an iron smelting furnace. Some samples, described as iron slag in the appendix, were too small for the process which produced them to be positively identified. The sample of probable blast furnace slag (F22/615) was almost certainly intrusive. The total quantity of material examined was only about 15kg although a similar quantity of slag from the site in the form of small amounts from various contexts was not examined.

The samples of iron smithing slag came from both 10th and 11th century levels, whereas tap slag was only found in the 11th century material examined. However, considering the small quantities of slag involved, the only conclusion that can be drawn from this material is that iron smithing and iron smelting took place on or near the site at some time in the 10th and/or 11th centuries A.D., but probably only on a small scale. Small quantities of iron smithing slag and hearth bottoms, are found on most Iron Age or later occupation sites.

The presence of the crucible (22/23 743) indicates that silver was being melted on or near the site during the 11th century. XRF indicated that the silver contained copper, lead and zinc but it was not possible to determine at what concentrations. In the absence of additional evidence for silver working no further conclusions can be drawn.

Appendix - Identification of each sample

Note - weights are approximate and are only given for samples weighing 500g or more

<u>Feature</u>	<u>Layer</u>	<u>Identification</u>
1	557	Iron smithing slag (Total weight 3kg)
4	558	Hearth bottom + hearth lining (2.5kg)
6	704	Iron slag
8	605	Iron smithing slag (500g) and tap slag
10	568	Iron slag
22	615	(? blast furnace) slag
22/23	743	Crucible used to melt silver
30	692	Iron slag
31	559	Iron smithing slag, tap slag and hearth lining (2.5kg)
31	708	Iron slag
31	702	Iron smithing slag (1kg) with small pieces of tap slag
37	707	Iron slag
56	703	Iron smithing slag
61	591	Iron smithing slag (1kg) and tap slag
64	705	Part of hearth bottom - (2kg)