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Ancient Monuments Laboratory
Report 80/88

CRUCIBLES AND SLAG FROM SITE OPT81, CITY OF LONDON

Justine Bayley

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April 1988

Summary

Roman contexts of 2nd century and later date produced sherds of crucibles used for melting silver. Background levels (under 2 kg) of iron smithing slag were also found.

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A small amount of slag (about 2 kg) was submitted for identification. It came from a number of contexts within and immediately underlying a mid/late 2nd century AD building. The small quantity and distribution of the slag indicate that it is just a background scatter and, as such, not indicative of any local industry. Explanations of the terms used in Table 1 to describe the individual pieces can be found in Bayley (1985).

Table 1: The slag

Context	Description
200	smithing slag
215	smithing slag, hearth lining, fuel ash slag
315	fuel ash slag
343	iron-rich fuel ash slag
363	corroded iron object; ? nail head
379	fuel ash slag
380	smithing slag (hearth bottom)
415	smithing slag
433	smithing slag (hearth bottom)
477	? smithing slag
528	fuel ash slag
635	overfired/vitrified ceramic

A total of eleven sherds, all thought to be from crucibles, were also submitted for examination and analysis. Only six had any evidence of use as a crucible. Three of these sherds (1496, 1498 and 1499) came from a mid/late 2nd century context while the others (1500, 1503 and 1504) came from two 3rd-late 4th century contexts. It is possible that all the crucible sherds represent a single episode of metal working but they are not all from the same form of vessel so metal working could have continued over a period of time though the quantity of sherds is not large.

All the crucible sherds were analysed by X-ray fluorescence (XRF) to determine the nature of the metal being melted. One sherd (1504) gave only weak signals for metals, sufficient to say that it had been used but not enough to identify the nature of the metal melted. It was a rim sherd from a beaker-shaped crucible, the normal form in the late 1st -2nd century (Bayley forthcoming). The other five sherds all gave signals for silver in addition to copper, zinc and/or lead. They were probably all used for melting debased silver.

Three of the non-crucibles had alkali-glazed surfaces which were almost certainly produced accidentally, they are a form of fuel ash slag. The fabrics of the sherds are unlikely to

have been sufficiently refractory to take a deliberate glaze of this sort with its high maturing temperature.

Table 2: The sherds

Museum No	Description
1495	oxidised fired
1496	base of crucible
1497	oxidised fired and 'glazed'
1498	crucible with added extra layer on outside
1499	crucible
1500	rim sherd from crucible
1501	oxidised fired and 'glazed'
1502	sooty, not crucible
1503	crucible
1504	rim sherd from crucible
1505	reduced fired and 'glazed'

References

Bayley, J (1985) What's what in ancient technology: an introduction to high temperature processes. In: P Phillips (ed) The archaeologist and the laboratory. CBA Res Rep 58.

Bayley, J (forthcoming) Non-ferrous metalworking: continuity and change. In: E Slater (ed) Proceedings of the Glasgow science and archaeology conference. BAR.