AML Report 1119

SITE 364

THE UNIVERSITY OF ASTON IN BIRMINGHAM

DEPARTMENT OF METALLURGY AND MATERIALS ENGINEERING

ARCHAEOMETALLURGY GROUP

Ironworking Evidence in Saxon Southampton (Hamwih)

Number One. Site: SOU 17

The site produced 6.67 kilograms of assorted residues from six contexts. The residues were classified into four types, smithing slag, hearth bottoms, fuel ash slag/cinder (FAS/cin) and possible smelting slag (appendix 1). The fuel ash slag is not diagnostic of a particular process and could derive from any high temperature activity (including domestic fires) although the cindery appearance of this slag does suggest that it is associated with the ironworking process. The remaining residues are of interest, the hearth bottoms and smithing slags are indicative of the smithing process and the possible smelting slag, if confirmed, would suggest that a smelting operation has been carried out in the vicinity.

Ironworking slags are, by definition waste materials from the smelting and smithing process. They are thrown away during the process and may therefore be found in contexts that are contemporary with the activity though not directly associated with the process. The slags are unaffected by burial and hence there is a problem of residuality.

The ironworking evidence of the Anglo-Saxon period is little understood, only a few smelting sites have been excavated, none of these in areas of major iron production in either the Roman or Medieval periods (the exception is Millbrook, Ashdown Forest on the edge of the Weald (C.F.Tebbutt, 1982 p.30). This contrasts with the artefactual evidence which indicates a high degree of craftsmanship and excellent exploitation of the properties of the iron and its alloys. The slags themselves are difficult to deal with in that it is very difficult to distinguish smelting and smithing slags by hand examination because of the technology used in the smelting process. Thus

APPENDIX

Slag Distribution by Weight (Grammes) from SOU 17

Feature and Layer		Slag Type				Total Weight
		Hearth bottom*	Smithing slag	Smelting ? slag	FAS/cin	(per feature)
F4	4			700		
	6		130		110	
	9	(8x6x3) 220				1160
F5	-	(15x12x6)1180				
	2		90			1270
F6	1		330		100	
	2	FB? (13x12x4)1000	1280			2710
F7	-		60			60
F9	2	(14x9x4) 580	170			750
F14	5	(12x8x7) 650				650

* Includes HB dimensions (Major Diameter x Minor Diameter x Depth (cms))

in a large corpus of material that is predominantly associated with one process, the firm identification of the slags of the other process may not be possible.

The slags from SOU 17 are typical, in that the evidence indicates the predominance of smithing slag but there are some possible smelting slags present.

There is evidence for smithing (i.e. hearth bottoms or smithing slag) from all the six contexts that produced slag. Feature 7 has an insignificant quantity of material, and F9, and F14 both have less than 1 kg. F4, 5 and 6 have more than 1 kg and F6 contains a quantity of smelting slag. Features 5 and 6 were shallow pits of similar size and the finds included charcoal, pottery, and bone, besides the slag, suggesting general domestic refuse. F4 was a typical cess/ rubbish pit. It is therefore likely that none of these pits were associated directly with ironworking but were back filled with available material which included ironworking slag.

The slag was only examined visually and no detailed analysis undertaken. The probable smelting slag consisted of two lumps, the first a possible 'furnace bottom (from F4) and secondly a very fine grained slag similar to smelting slag from Mucking, Essex (McDonnell), (from F6). It is possible that some of the smithing slag also found in F4 and F6 could be small lumps of smelting slag.

Conclusion

SOU 17 has typical 'urban' evidence of ironworking, i.e. the slag is from features not associated with ironworking, but occurs with general domestic rubbish. The slag is predominantly smithing slag with some evidence for smelting in the vicinity. It is unlikely that any of the slag was brought to the rubbish pits from any great distance and therefore it would be expected that iron smithing and probably smelting was practised nearby.

J.G. McDonnell
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References

McDonnell J.G. The Ironworking evidence from Mucking, Essex, (in prep.for D.O.E.)

Tebbutt, C.F. A Middle Saxon Iron Smelting at Millbrook, Ashdown Forest, Sussex, Sussex Archaeological Collections, Vol. 120, 1982, pp. 19-35