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Ancient Monuments Laboratory
Report 6/93

TECHNOLOGICAL REMAINS FROM THE FOUNDRY, POOLE (PM46), DORSET

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Summary

About 1.3kg of smithing slag from post-medieval context may relate to the use of the site as a boatyard. Some organic material attached to medieval pots was analysed and proved to be pine pitch.

Author's address :-

Catherine Mortimer BTech DPhil

Ancient Monuments Laboratory
English Heritage
23 Savile Row
London
W1X 1AB

Technological remains from The Foundry, Poole (PM46), Dorset

Cath Mortimer

A medieval boatyard and timbers were found at the site, excavated in 1987. Subsequent occupation consisted of a school (eighteenth century) and an iron foundry (19th century).

Ferrous slags and coke

Fifteen small samples of slag were submitted for examination; their total weight is around 1.3kg. This is at or below the level of slag concentration normally expected in a medieval or post-medieval urban context. Most of the samples examined were of the ferrous smithing slag type. They are inhomogeneous, rough and rust-coloured in places. One piece of slag includes an iron object (a nail?, J 52). Another sample (J 115) is a piece of coke, produced when coal was partly burnt for a heating process; coal was not used as a heat source for smithing, as the sulphur in coal would adversely affect the iron. Six samples were X-rayed (see table); evidence for copper-alloy inclusions (in the form of bright spots amongst a grey matrix on the radiograph) was sought but not detected.

Very low levels of copper were detected in five cases out of the six samples selected for surface X-ray fluorescence analysis (XRF, see table). Lead at very low levels was detected in two cases. However, in all cases iron peaks were dominant in the spectra. This analytical evidence accords with the idea that the slag relates to ferrous metalworking. Copper may have been introduced into the slags accidentally, for instance, if copper alloys were being melted or annealed in the same hearth. Alternatively, corrosion of copper-alloy objects in the same context could have caused this low level of contamination of the slags. Similarity in composition and appearance suggests that all of the slags may come from similar processes and/or be roughly contemporary.

Organic samples

Samples were taken from dark, tar-like residues on two pots (SFs 202 and 355). The samples were ground, mixed with potassium bromide and pressed to form discs to run in an infra-red spectrometer. The resulting spectra were both similar to reference spectra from pine pitch.

These analyses were carried out with the help of John Evans, University of East London, Stratford.

A report on fibre samples (Contexts 303, 297 and 221) is in preparation.

Table: Listing of slags

Ref		Date	Weight (g)	XRF?	
C 361 42		1st-16th	2		
E 410 31		1st-16th	44	(Cu)(Pb)	
G 284		1st-16th	77	(Cu?)	
G 323		1st-16th	104		X
G 354 1		1st-16th	9	-	
H 260		e 16th	357		
H 303		e 16th	252	(Cu Pb)	
H 308		e 16th	88		
H 398 5		e 16th	79		
J 52	C	16th	74		X
J 115		e 17th	23	(Cu??)	
J 147		m 17th	46		X
J 237		18th	38	(Cu)	X
J 139		e 17th	58		X
J 141		e 17th	31		X

Code

C = contaminated context

X=X-rayed

XRF results

Cu = copper
Pb = lead
If in brackets, present at low levels.