

Gold enrichment in Staffordshire Hoard K567: results of SEM-EDX analysis

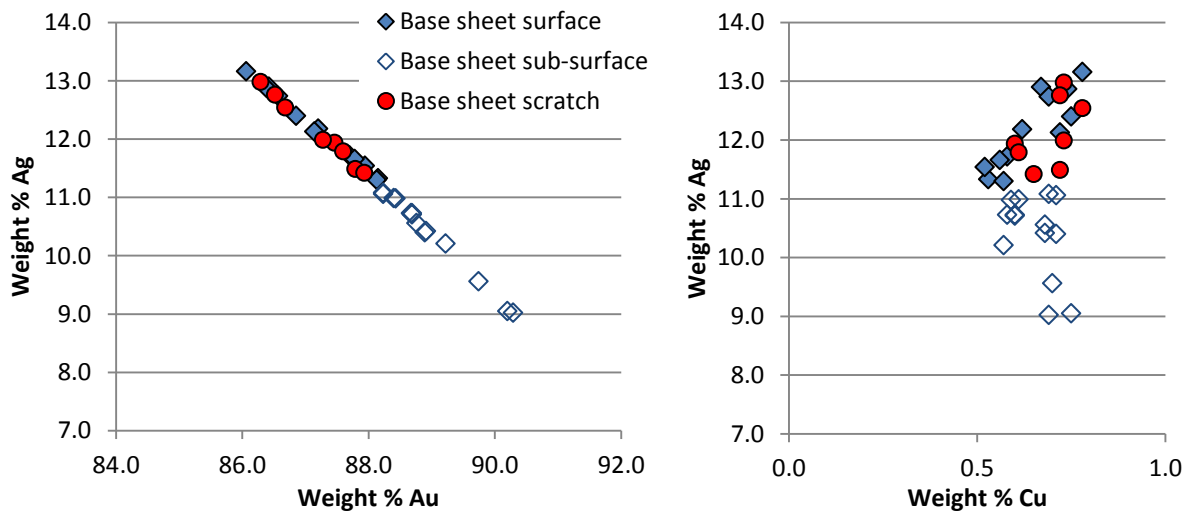
Object Type Hilt Plate
 Date 625-650
 Decoration Filigree Glass
 Garnet Other



SEM-EDX analysis was undertaken on the front of the hilt plate.

Area analysed	No of analyses		Wt% Au	Wt% Ag	Wt% Cu
Surface	12	Average	87.5	11.8	0.7
		Standard Deviation	0.74	0.86	0.08
Scratch	6	Average	87.2	12.1	0.7
		Standard Deviation	0.62	0.58	0.06
Sub-surface	14	Average	87.9	11.4	0.7
		Standard Deviation	0.67	0.77	0.06

SEM-EDX surface and sub-surface compositions (the results are normalised). This analysis was carried out as part of the gold enrichment study. For full details of methodology and associated results see report PR07444-10 and PR07444-15



Plots of gold vs silver and copper vs silver contents, based on SEM-EDX analysis, showing the differences between the sub-surface and surface analyses.

SEM-EDX analysis of the sub-surface indicated a composition of approximately 87-88 wt% gold, 10-12 wt% silver, the rest being copper. The analysis revealed no loss of copper from the surface of the object. There was a slight increase silver at the surface but this was also present on the surface of a scratch made when removing the hilt plate in antiquity, so is likely to be a post depositional affect perhaps from contact with nearby corroding silver objects.

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 Analysed September 2013

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