

Gold enrichment in Staffordshire Hoard K95: results of SEM-EDX analysis

Object Type Fitting  
Date 600-650

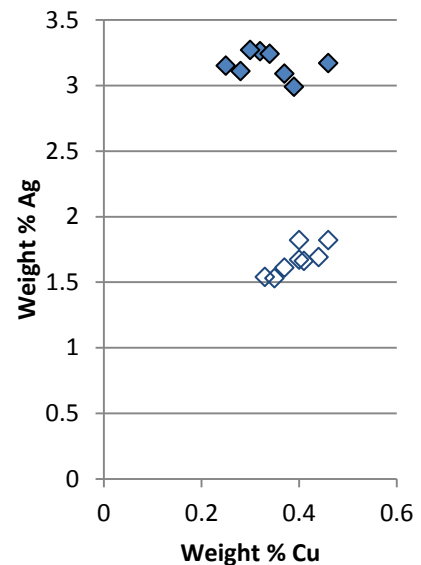
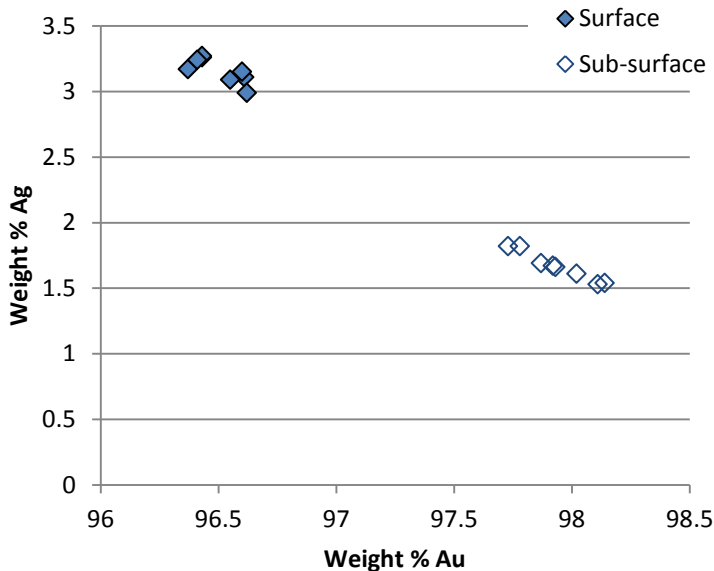
Decoration Filigree  Glass   
Garnet  Other



SEM-EDX analysis was undertaken on the base sheet on the front of this fitting.

Area analysed	No of analyses		Wt% Au	Wt% Ag	Wt% Cu
Surface	8	Average	96.5	3.2	0.3
		Standard Deviation	0.10	0.10	0.07
Sub-surface	8	Average	97.9	1.7	0.4
		Standard Deviation	0.15	0.11	0.04

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 97-98 wt% gold, 1-2 wt% silver, with traces of copper. The analysis revealed a small loss of copper at the surface, most likely indicative of corrosion that can occur during burial which results in natural surface enrichment. There was a small increase in silver at the surface which may be re-deposited silver from nearby corroding silver alloy objects.

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Analysed January 2013

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