

Gold enrichment in Staffordshire Hoard K5008: results of SEM-EDX analysis

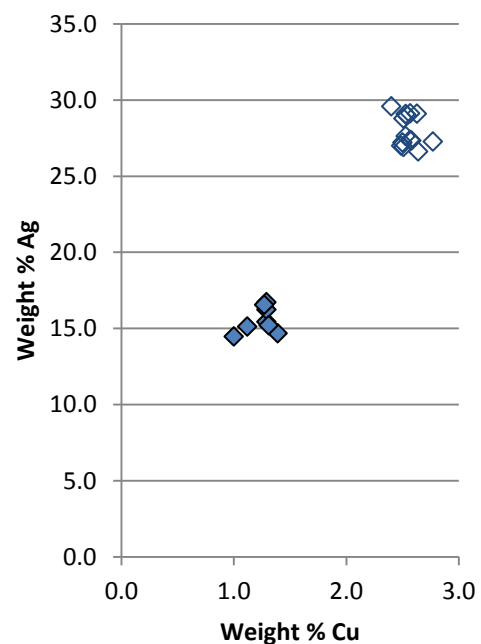
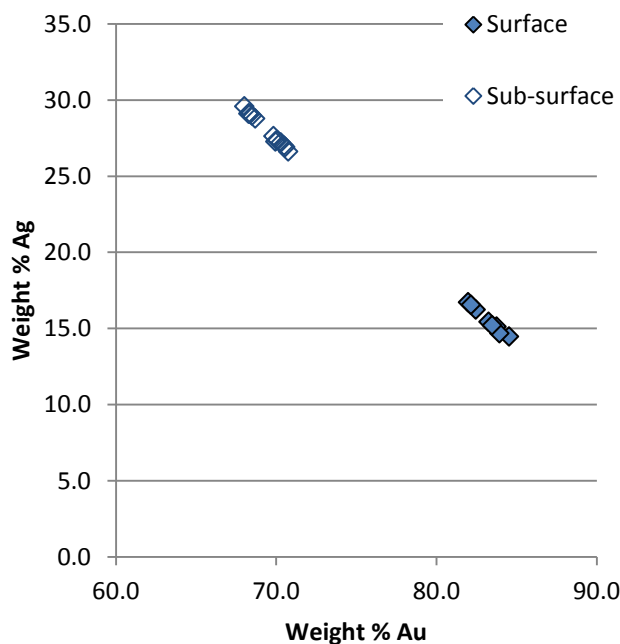
Object Type Cross mount
 Date 620-650
 Decoration Filigree Glass
 Garnet Other



SEM-EDX analysis was undertaken on the base sheet of the cross.

Area analysed	No. of analyses		Wt% Au	Wt% Ag	Wt% Cu
Surface	8	Average	83.2	15.6	1.2
		Standard Deviation	0.91	0.86	0.12
Sub-surface	14	Average	69.4	28.0	2.6
		Standard Deviation	1.01	1.04	0.09

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 68-71 wt% gold, 27-29 wt% silver, the rest being copper. The analysis revealed a c.12.4 wt% loss of silver from the surface (a difference of c.44% from surface to core), which is indicative of deliberate treatment to enhance the gold colour of the metal. Only copper and small amounts of silver are normally lost from the surface during burial.

Eleanor Blakelock
 Analysed January 2014

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