

Gold enrichment in Staffordshire Hoard K360: results of SEM-EDX analysis

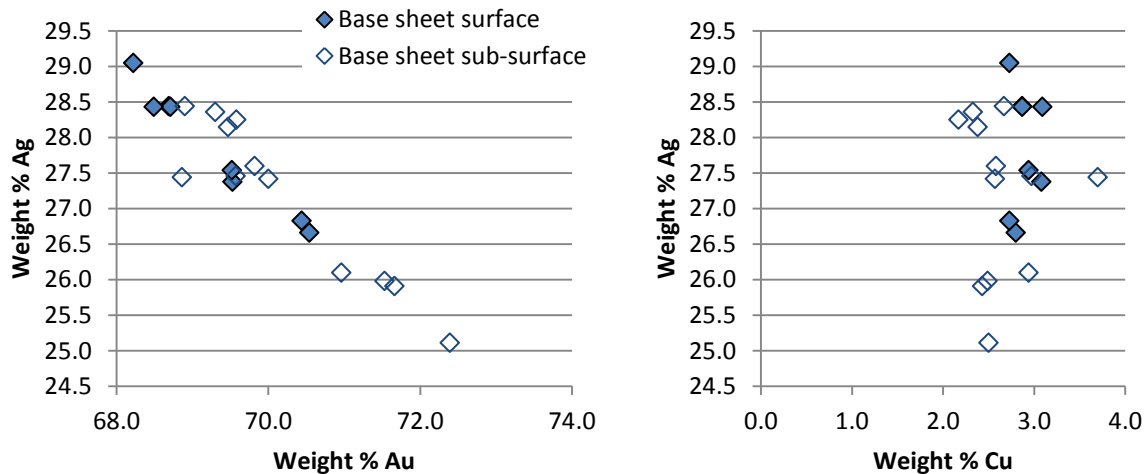
Object Type Pommel  
 Date 600-630  
 Decoration Filigree  Glass   
 Garnet  Other



SEM-EDX analysis was undertaken on the gold sheet at the base of the pommel.

| Area analysed | No of analyses |                    | Wt% Au | Wt% Ag | Wt% Cu |
|---------------|----------------|--------------------|--------|--------|--------|
| Surface       | 8              | Average            | 69.3   | 27.8   | 2.9    |
|               |                | Standard Deviation | 0.88   | 0.86   | 0.14   |
| Sub-surface   | 12             | Average            | 70.2   | 27.2   | 2.6    |
|               |                | Standard Deviation | 1.17   | 1.13   | 0.40   |

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 69-72 wt% gold, 26-29 wt% silver, the rest being copper. The analysis revealed no loss of either silver or copper from the surface of the object, instead there was a very small increase in silver and copper at the surface which may indicate the use of solder in this area or derive from close contact to corroding silver objects in the burial environment.

Eleanor Blakelock  
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