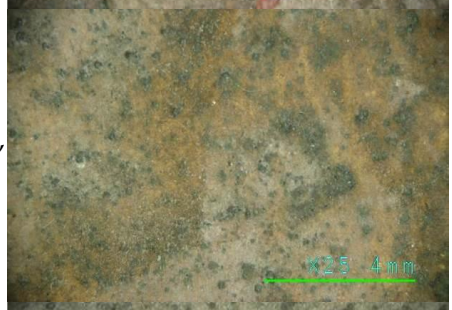
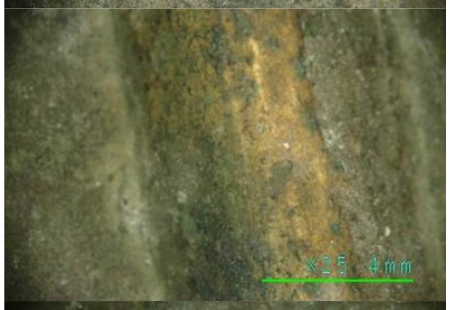
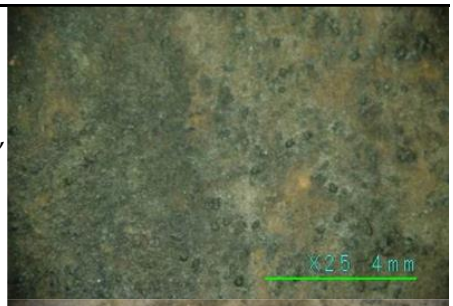
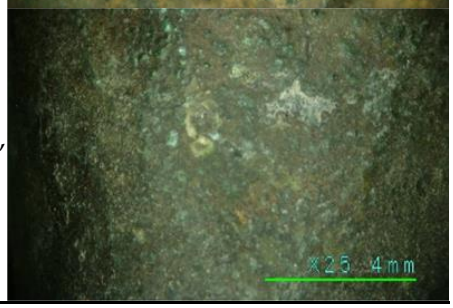
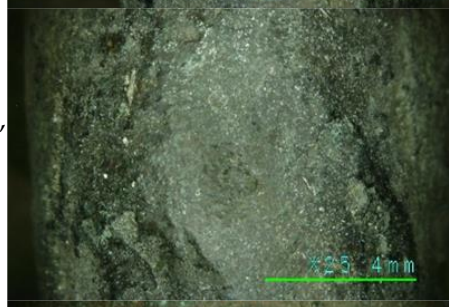
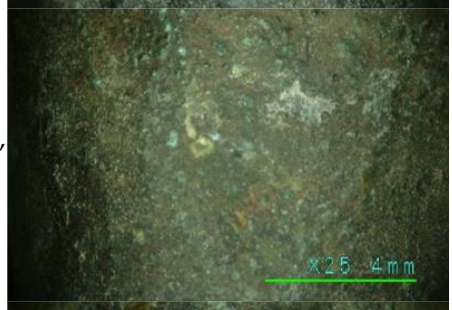
SUPPLEMENTARY MATERIALS

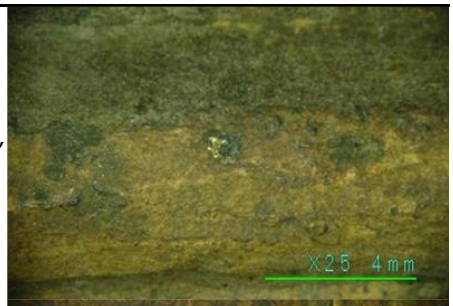
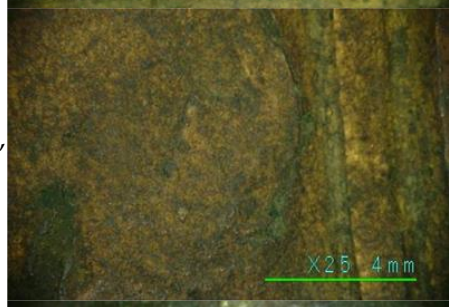
Figure S1. Sampling points and corresponding samples (powders and fragments) observed under stereomicroscope.

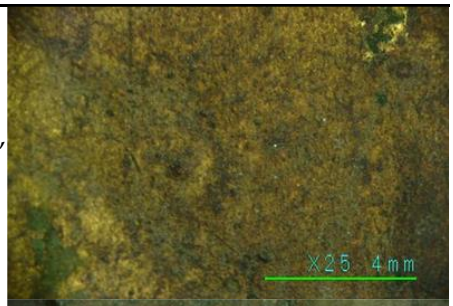
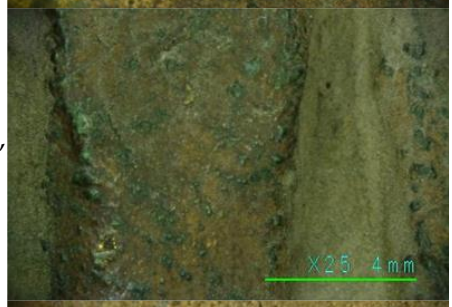
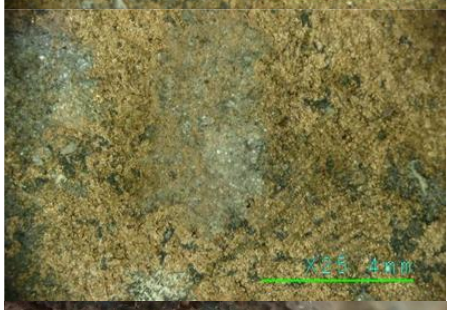
Table S1. For each XRF point of analysis, elements detected and detail of the analyzed surface. Key to notation: **bold** = major, normal = minor, *italic* = trace, (*italic*) = very trace. E: eastern; W: western; f: front; b: back; *: poorly reliable results due to measurement point difficult to probe.

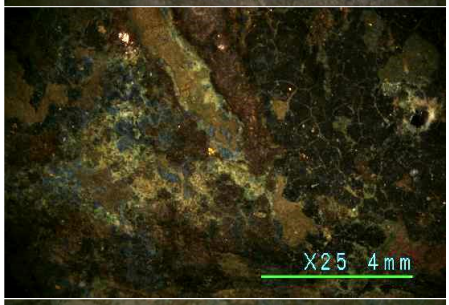
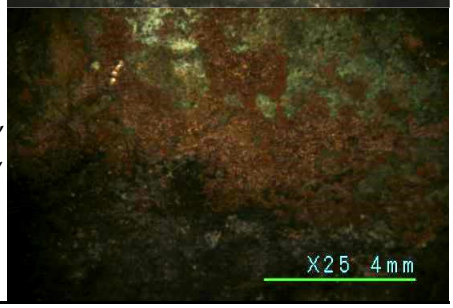
Point	Eagle	Description	Elements	Detail of point of analysis
01	E, b	Red paint on feather	**Cu,** Ca, Au, Pb, Fe, *Hg, K, (Mn), Sn, (Sb)*	
02	E, b	Feather, right wing	**Cu**, Ca, Au, Pb, Fe, *Sn, (Sb), (K)*	
03	E, b	Bale of cloth	**Cu,** Ca, Fe, Pb, Ag, *As, K, Mn, Sn, (Sb)*	
04	E, b	Lanyard of the bale of cloth	**Cu,** Ca,Au, Pb, Fe, Sn, *Sb, Mn, K, (Ag)*	
05	E, b	Dark patina on bale of cloth	**Cu**, Ca, Pb, Sn, Fe, *K, Ag*, (*As), (Sb)*	

06	E, b	Feather on the tail	**Cu,** Ca, Au, Fe, Pb, Sn, *K, Mn, Si,* (*Sb)*	
07F	E, b	Red paint on feather	**Cu,** Hg, Au, Pb, Sn, *Fe,* (*Sb)*	
08F	E, b	Feather, right wing	**Cu**, Au, Sn, Pb, *Fe, Sb*	
09F	E, b	Feather, right wing	**Cu**, Au, Sn, Pb, *Fe, Sb*	
10	E, b	Feather, right wing	**Cu,** Ca, Au, Fe, Pb, Sn, *Sb, K, Mn*	
11	W, f	Beak	**Cu,** Ca, Au, Sn, Pb, Fe, *Sb, K,* (*Mn)*	

12	W, f	Claw	**Cu,** Ca, *Hg*, Fe, *K*, Pb, Sn, *Sb*, *Mn*	
13	W, f	Claw	**Cu,** Ca, Hg, Sn, Pb, Fe, *Si*, *Cl*, *K*, *Mn*, (*Sb*)	
14	W, f	Beak	**Cu,** Ca, Au, Sn, Pb, Fe, *K*, (*Mn*), (*Sb*)	
15	W, f	Claw	**Cu,** Ca, Sn, Pb, Fe, *Hg*, *Si*, *Cl*, *K*, *Mn*, (*Sb*)	
16	W, f	Right paw	**Cu,** Ca, Sn, Pb, Fe, *Si*, *As*, *Cl*, *K*, *Mn*, (*Sb*)	
17	W, f	Bale of cloth	**Cu,** Ca, Fe, Pb, Ag, *As*, *K*, *Mn*, Sn, *(Sb)*	

18	W, f	Lanyard on the bale of cloth	**Cu,** Ca, Au, Fe, Pb, Sn, *K*, (*Mn*),(*Sb*)	
19	W, f	Feather, left wing	**Cu**, Ca, Au, Sn, Pb, Fe, *K*, *Mn*, (*Sb*)	
20	E, f	Beak	**Cu,** Ca, Au, Sn, Pb, Fe, *K*, (*Mn*), (*Sb*)	
21	E, f	Claw	**Cu,** Ca, Sn, Pb, Fe, *K*, (*Mn*), (*Sb*)	
22	E, f	Claw	**Cu,** Ca, Sn, Pb, Fe, *K*, (*Mn*), (*Sb*)	
23	E, f	Left paw	**Cu,** Ca, Sn, Pb, Fe, *K*, (*As*), (*Mn*), (*Sb*)	

24	E, f	Feather, right wing	**Cu**, Ca, Au, Sn, Pb, Fe, *K*, (*Mn*), (*Sb*)	
25	E, f	Feather on neck	**Cu**, Ca, Au, Sn, Pb, Fe, (*K*), (*Mn*), (*Sb*)	
26*	E, f	Inside bale of cloth	**Cu**, Fe, *Pb*, *Ca*, *Sn*	
27*	E, f	Inside bale of cloth	**Cu**, Fe, Ca, *Pb*, *Sn*, *(Mn)*	
28	E, f	Left paw	**Cu,** Ca, Sn, Pb, Fe, *K*, *Mn*, (*Sb*)	
29	E, f	Bale of cloth	**Cu,** Ca, Fe, Pb, Sn, Ag, *As*, *K*, *Mn*, *(Sb)*	

30	E, f	Eye	**Cu,** Ca, Fe, Au, Pb, Sn, *(K)*, *(Sb)*	
31	E, f	Claw	**Cu,** Ca, Sn, Pb, Fe, *As, K, Si,* (*Mn*), (*Sb*)	
32	E, f	Left paw	**Cu,** Ca, Sn, Pb, Fe, *K,* (*Mn*), (*Sb*)	
33	W, f	Right paw	**Cu,** Ca, Sn, Pb, Fe, (*Sb*)	
34	W, f	Claw	**Cu,** Ca, Sn, Pb, Fe, *Hg, As, K, Si,* (*Mn*), (*Sb*)	
35	W, f	Eye	**Cu,** Ca, Fe, Au, Pb, Sn, *(K)*, *(Hg)*, *(Mn)*, *(Sb)*	

36	W, b	Bale of cloth	**Cu,** Ca, Fe, Pb, Sn, *Ag, (As), (Mn), (Sb)*	
37	W, b	Bale of cloth	**Cu,** Ca, Fe, Pb, Sn, *Ag, (As), (Mn), (Sb)*	
38	W, b	Bale of cloth	**Cu,** Ca, Fe, Pb, Sn, *Ag, (As), (Mn), (Sb)*	n.a.
39	W, b	Bale of cloth	**Cu,** Ca, Fe, Pb, Sn, Ag, *Mn, (As), (Sb)*	n.a.
40F	W, b	Bale of cloth, see 36	**Cu,** Pb, Sn, *Sb, Ag, Ca, Fe, (Mn)*	n.a.
41F	W, b	Bale of cloth, see 37	**Cu,** Pb, Sn, *Sb, Ag, Ca, Fe, (Mn)*	n.a.
42F	W, f	Claw, see 34	**Cu,** Sn, Pb, *Fe, Hg, Ca,* (*Sb)*	n.a.
43F	E, f	Claw, see 31	**Cu,** Sn, Pb, *Fe, Ca,* (*Ag),* (*Sb)*	n.a.
44F	E, f	Left paw, see 28	**Cu,** Sn, Pb, Fe, *Ca,* (*Sb)*	n.a.
45F	E, f	Claw, see 31	**Cu,** Sn, Pb, *Fe, Ca, Sb,* (*Ag)*	n.a.
46F	E, f	Claw, see 31	**Cu,** Sn, Pb, *Fe, Ca, Sb,* (*Ag)*	n.a.

47F	W, f	Claw	**Cu,** Sn, Pb, *Hg, Fe, Ca, Sb, Ag*	n.a.
48F	W, f	Eye, see 35	**Cu,** Au, Pb, Sn, *Fe, (Sb)*	n.a.
49F	E, f	Eye, see 30	**Cu,** Au, Pb, Sn, *Fe, (Sb)*	n.a.
50F	W, f	Claw, see 34	**Cu,** Au, Pb, Sn, *Hg, Fe, Sb, (Ag)*	n.a.

Table S2. Main vibration bands detected in the samples taken from the eagles, with their assignments.

Compound	Vibration band (cm^{-1})	Assignment	Refs.
Gypsum	3512,3400 1133	ν(OH) $\nu_3(SO_4^{2-})$	[36]
Calcium oxalate	1644,1621 1320	ν_{as}(C–O) overlapping δ(HOH) ν_s(C-O)	[37,38]
Atacamite	3447,3350 987-846	ν(OH) OH deformation	[39]
Moolooite	1367, 1322 828	ν_s(C-O) + δ(O-C=O) δ(O–C=O) + ν(Cu–O)	[38,40]
Lipid substance	2927, 2855 1716	$\nu_{as}(CH_3)$, $\nu_s(CH_2)$ ν(C=O)	[41]
Azurite	3412 1464, 1403 951	ν(OH) $\nu_3(CO_3^{2-})$ δ(O–H) out-of-plane bending	[42]
Metal carboxylate	2928, 2858 1590-1400	$\nu_{as}(CH_3)$, $\nu_s(CH_2)$ $\nu_a(COO^-)$, $\nu_a(COO^-)$	[43-45]
Proteinaceous substance	3400 1644 1536	ν (N-H) ν (C = O) (amide I) δ(NH) + ν(CN) (amide II)	[46, 47]
Calcium carbonate	1412	$\nu_3(CO_3^{2-})$	[47]
Silicate	1095	ν_{as}(Si-O-Si)	[48]

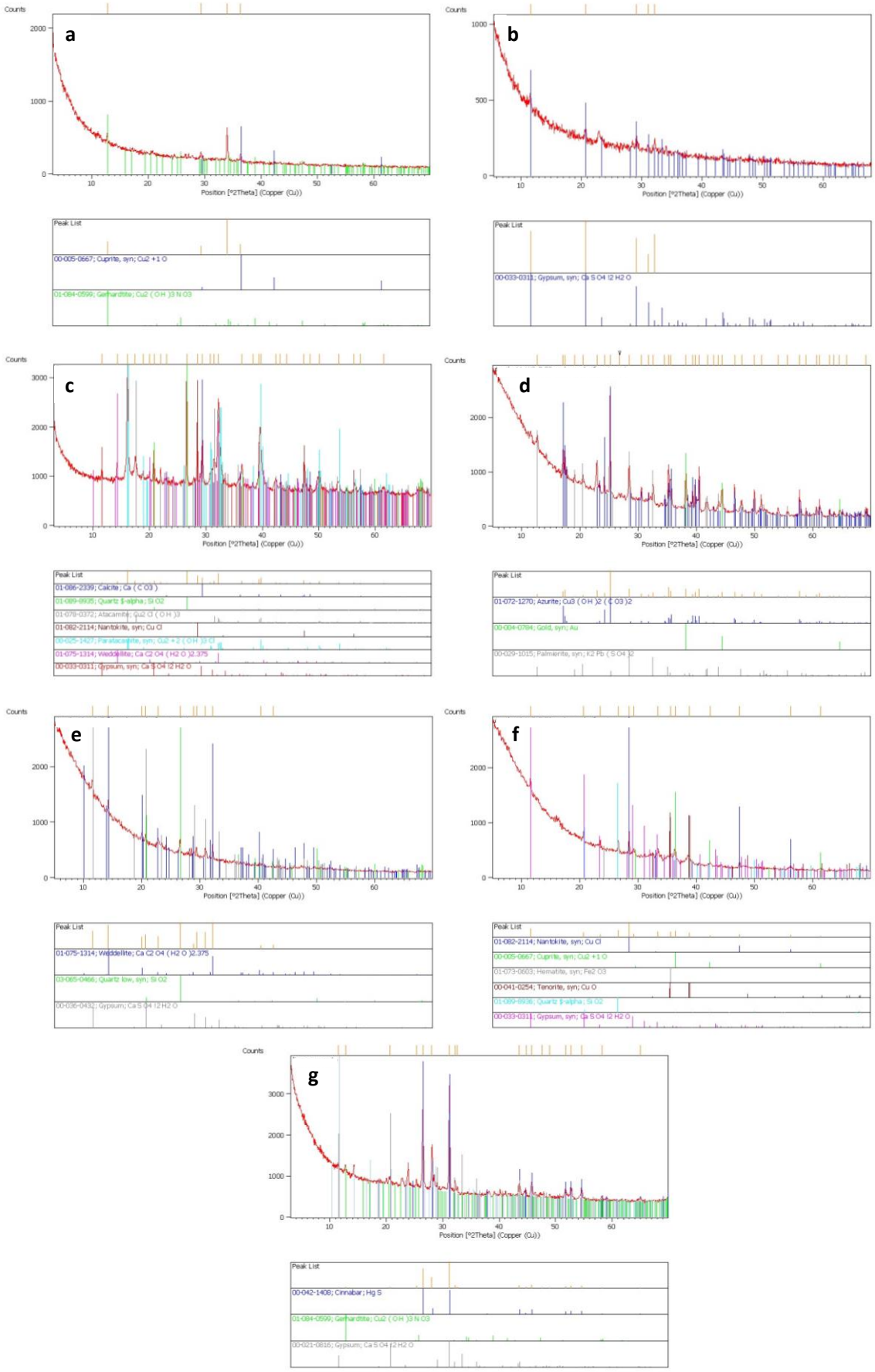


Figure S2. XRPD pattern of micro-samples. (**a)** Sample 3; (**b**) Sample 4; (**c**) Sample 6; (**d**) Sample 11; (**e**) Sample 12; (**f**) sample 13; (**g**) Sample 14.

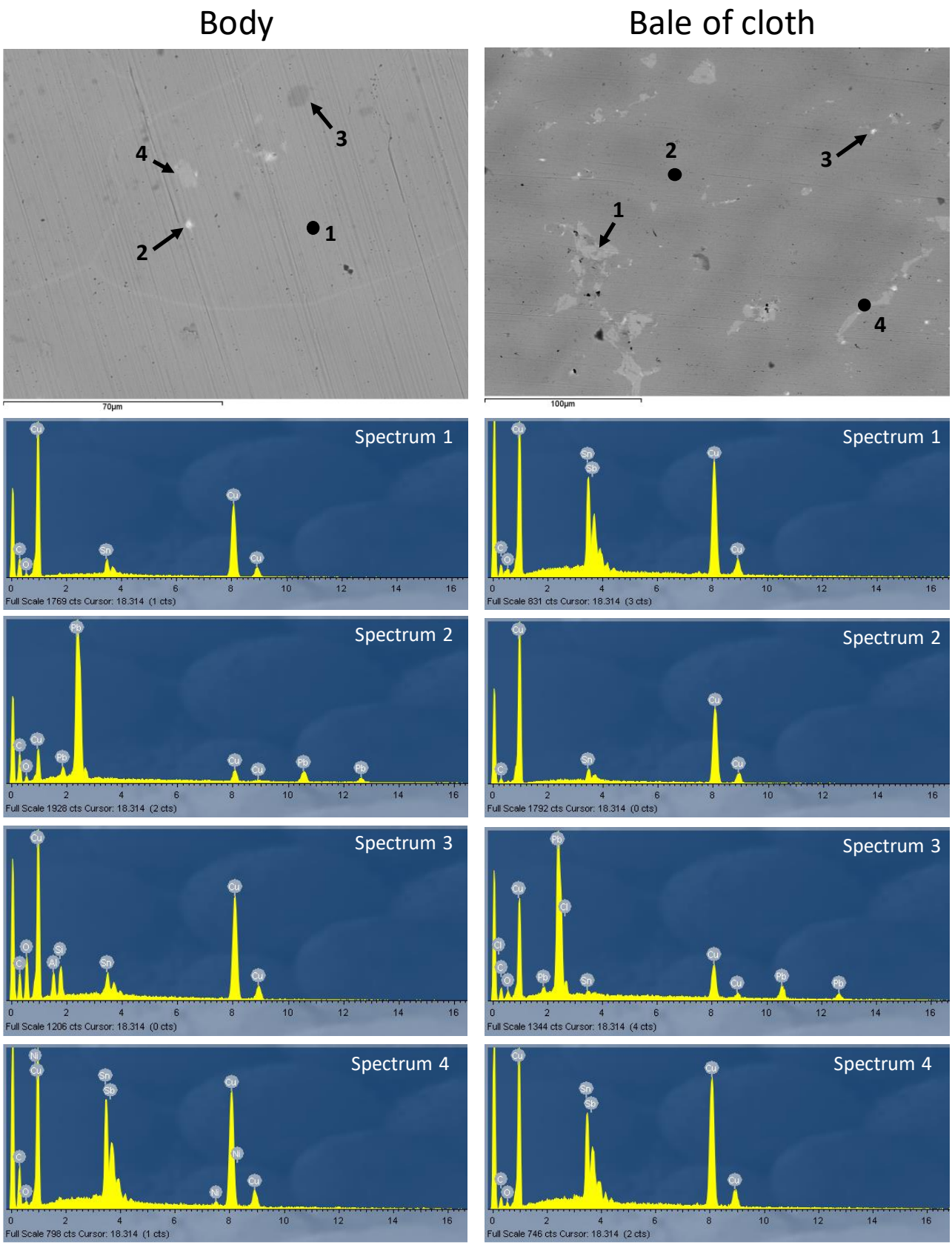


Figure S3. SEM-EDS analysis of the alloy of samples 01 (body) and 02 (bale of cloth) from the Western eagle.

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