



## Report on the conservation of leather small finds.

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### INTRODUCTION

This report describes the conservation of a collection of 27 leather small finds excavated by Wessex Archaeology from a site in the Thames Estuary (Site Code 88631). The work carried out has been the stabilisation of the objects by bringing them to the appropriate dry storage. Once treated, the artefacts have been packaged appropriately for return to the client and for archive storage.

### DESCRIPTION

The following pieces of leather were submitted for conservation (please see the below list). The leather arrived at the YAT Conservation laboratory wet packed inside sealed finds bags divided between six Stewarts Giant Storers. The leather was in generally very good condition, the objects being flexible, any stiffness being directly relative to the thickness of the hide or of the composite nature of that part of the artefact.. Many pieces were composite objects, being significant portions of footwear with articulated uppers and soles, most of the latter being composite, and with heels built up from layers of thick hide. Several of the soles and heels were fastened together with small tacks

**Table 1: List of Objects Submitted for Conservation:**

Context no.	Notes
9001	Boot- upper
9002	Boot- sole. Tacks present
9003	Boot- sole
9004	Boot- sole and laminated heel
9005	Thin leather or textile
9005	Boot- sole, with laminated heel and part of upper.
9006	Heel and part of upper
9007	Part of upper
9008	Part of upper
9009	Part of upper
9010	Part of upper
9011	Part of upper
9012	Boot- sole, no heel
9013	Part of upper
9014	Sole- tacks present
9015	Sole- with laminated heel, fe tacks present
9016	Part of upper
9017	Part of upper

9018	Shoe- sole and much of the upper , with laminated heel, tacks present
9018	Also separate bag with loose fragments from above
9019	Shoe- sole and most of upper, with laminated heel, tacks present
9020	Boot- sole and much of upper, with laminated heel, tacks present
9021	Boot- sole and much of upper, with laminated heel, tacks present
9021	Also separate bag with loose fragments from above
9022	Part of upper
9023	Shoe- sole and part of upper, with (detached) laminated heel, tacks present
9024	Sole- tacks present
9025	Three fragments from same sole.
9026	No object submitted
9027	Textile from ?upper. Numbering error on bag and label (written 2027)
9028	Shoe- sole, with laminated heel, iron tacks present. Numbering error on bag and label (written 2028)

## METHODOLOGY

The wet leather was washed under gentle running water and soil and silt removed with a soft brush. As the assemblage derived from an estuarine environment with likely salt water present, the leather was first placed in a bath of clean tap water with a running tap set to flush water through the container. Regular readings were taken to measure the chloride concentration and when this had been reduced to an acceptable level at or below 50 ppm the desalination was complete.

**Table 2: Chloride levels for desalination:**

Date	Silver nitrate solution?	Volume used	Result	outcome
07/12/2017	n/a	n/a	n/a	Assemblage washed and placed in tank with tap water
12/12/2017	0.00704 Molar	10cm <sup>3</sup>	100ppm	Tap water solution changed. Set up running water to flush through assemblage
15/12/2017	0.00704 Molar	6cm <sup>3</sup>	60ppm	Continued
18/12/2017	0.00704 Molar	4cm <sup>3</sup>	40ppm	Continued
20/12/2017	0.00704 Molar	3cm <sup>3</sup>	30ppm	Continued
22/12/2017	0.00704 Molar	2cm <sup>3</sup>	20ppm	Complete

Staining from the corrosion of metal components was present and the leather was left to soak for a few days in a 2%w/v solution of ammonium citrate in water before being removed and thoroughly washed through with clean water once more.

The leather was pre-treated by immersion in a solution of 25% glycerol v/v in water for 5 days after which it was frozen followed by freeze-drying in two batches, (using the 7.5 Litre Birchover Freeze Drier, run numbers 55(from 22/01/2018 to 15/02/2018) and 56 (from 15/02/2018 to 05/03/2018).

Once dry surfaces were lightly dry brushed and the very occasional patches of excess glycerol swabbed with water and left to air dry. Some of the objects had thin, highly

localised patches of surface concretion present. These were left in place as removing them threatened to damage the underlying leather.

#### **RECOMMENDATIONS**

All finds have been packaged inside finds bags with Jiffy® foam inserts for supports.

The objects are now stable but should be stored in an environment of 50-55% Relative Humidity and a stable temperature. Light levels should not exceed 50 lux.