

2.4 Finds conservation

Many excavations produce artefacts that require conservation treatment. The principle aim of conservation is to archive material that is, as far as possible, stable. This is not always straightforward, particularly in the case of metals; however, with the application of best conservation practice and discussion to resolve specific issues, it is expected that a stable archive can be achieved. Standards for archaeological materials set by the Museums and Galleries Commission (MGC 1992) and the UKIC Archaeology Section (UKIC in prep) have been used as a basis for these requirements.

Should depositors be in any doubt about conservation needs they should contact the Museum of London Archaeological Conservation Section.

A qualified conservator should assess the material and be responsible for any necessary treatment.

The section is arranged as follows:

- 2.4.1 Storage and packing
- 2.4.2 X-radiography
 - 2.4.2.1 *Categories of artefact to be X-rayed*
 - 2.4.2.2 *Presentation of X-ray plates*
- 2.4.3 Selection for conservation treatment
- 2.4.4 Recording conservation treatments
 - 2.4.4.1 *Paper records*
 - 2.4.4.2 *Digital records*
 - 2.4.4.3 *Other records*
- 2.4.5 Technical reports, samples and photographs
- 2.4.6 Preservation *in situ* and reburial
- 2.4.7 Conservation assessment
- 2.4.8 Conservation at the post excavation analysis phase
- 2.4.9 Conservation at archive deposition phase

2.4.1 Storage and packing

Procedures described in Section 2.6, *Ordering and Packing*, must be followed. Good storage and packaging will contribute to the preservation of the archive. Particular attention must be paid to the storage of iron, which will require desiccated storage using silica gel (a low relative humidity microclimate, dry storage). Other potentially unstable materials (eg some copper alloys, ivory, horn, shale or jet) may also require controlled microclimates.

2.4.2 X-radiography

The Museum requires that a substantial proportion of the material is X-rayed, including all coins and most iron objects. This should be done at the Site Archive stage (Section 1.2), because the Museum regards X-radiographs (or 'X-rays') as an essential part of an object's documentation, as well as a research tool.

2.4.2.1 Categories of artefact to be X-rayed

- All iron finds, apart from positively identified medieval and later nails. This stipulation may be relaxed for groups of post-medieval structural metalwork, on agreement with the Museum
- Non-ferrous metal objects, if corrosion obscures surface detail
- All coins
- Composite objects eg iron knives with bone handles, hobnailed shoes

2.4.2.2 Presentation and numbering of X-ray plates

- Each plate should contain items from only one site. The standard size of X-ray plate is 180 x 240m. However for smaller sites, smaller plates can be submitted, minimum size 90 x 120m – that is, plates can be cut down. Larger plates can also be used if necessary
- Image quality should be checked for exposure and detail
- Three-dimensional objects that reveal additional features from different angles should have multiple exposures to display this information; if possible these multiple exposures should be created on a single plate
- Plates should be well fixed and rinsed to an archival standard following manufacturers guidelines
- Each plate must be assigned a unique number in a running sequence. This number will be the site code followed by a 3 digit number, eg ABC98-001, marked on the X-ray plate in the upper right corner, portrait form. This number should be created using lead letters and numbers and then overwritten with permanent white ink (see Additional Resources 1 for suppliers of suitable inks).
- Each object image on the plate must be clearly marked in permanent white ink with the full number (context number and registration number or context number only if not registered).
- The plate number(s) for each object must be:
 - written on the pre-printed finds label in **red** biro ink without the site prefix - eg 'X001'
 - recorded on the Conservation Record card (2.4.4) and/or the Technical Report form (2.4.5), if the object is subsequently treated
 - entered on the Registered Finds card (2.3.4.3), the Finds inventory (2.3.4.) and the Images Register (2.2.2.4)
- Each plate must be stored individually in a polyester hanging sleeve (see 2.6.6.3).

2.4.3 Selection for conservation treatment for archive deposition

Each project will have its own conservation requirements; however, the Museum has some general requirements that must be followed.

- Damp or wet finds must be cleaned, stabilised, whether a registered find or bulk, and dried according to best practice.
- Vulnerable finds in danger of deterioration must be stabilised. The selection of objects will rely on the judgement of the project conservator, but we encourage depositors to discuss specific problem objects or materials with Museum of London conservators

- All stratified coins must be X-rayed, and cleaned for dating purposes. For actively corroding coins stabilisation with corrosion inhibitor and coating is required. For exceptionally large coin assemblages, it may be possible for only a selection of the stratified coins that cannot be identified from X-rays to be treated. In such cases the selection procedure must be agreed with the Museum of London, and should be recorded in writing and submitted with the coin lists.
- Non-ferrous objects selected for treatment should normally be cleaned in their entirety. Partial cleaning for investigation should be limited to those instances where complete cleaning may be detrimental to the object itself or where it may take an unreasonable proportion of project time. In the case of ironwork, however, partial cleaning may be appropriate for a larger proportion of objects; such objects must be stabilised according to current best practice.
- Objects lifted in a soil block should normally be excavated from the block and stabilised; there may be occasional exceptions (eg hobnailed boots)
- If large structural items – such as wooden building elements, wall plaster or mosaics – are found on site, their future must be discussed with Museum staff at a very early stage. Only if it is agreed that the material is to be deposited in the archive need they be fully cleaned and conserved.
- All treatment of vulnerable or friable fabrics, or of vessels required for photography or display, must be carried out by the project conservator. Reconstruction of ceramics and glass by non-conservators must be limited to the taping together of sherds from vessels of stable fabrics with no surface coating, if this is required for illustration. The minimum number of sherds should be used; taping must be done as late as possible before drawing starts and must be removed immediately afterwards; only tape approved by a conservator should be used.
- Samples that have not yet been treated will not be accepted for archival deposition, unless a compelling case can be made for retaining them on the grounds of research potential. Samples must be clearly labelled and accompanied by a statement outlining their significance and value.

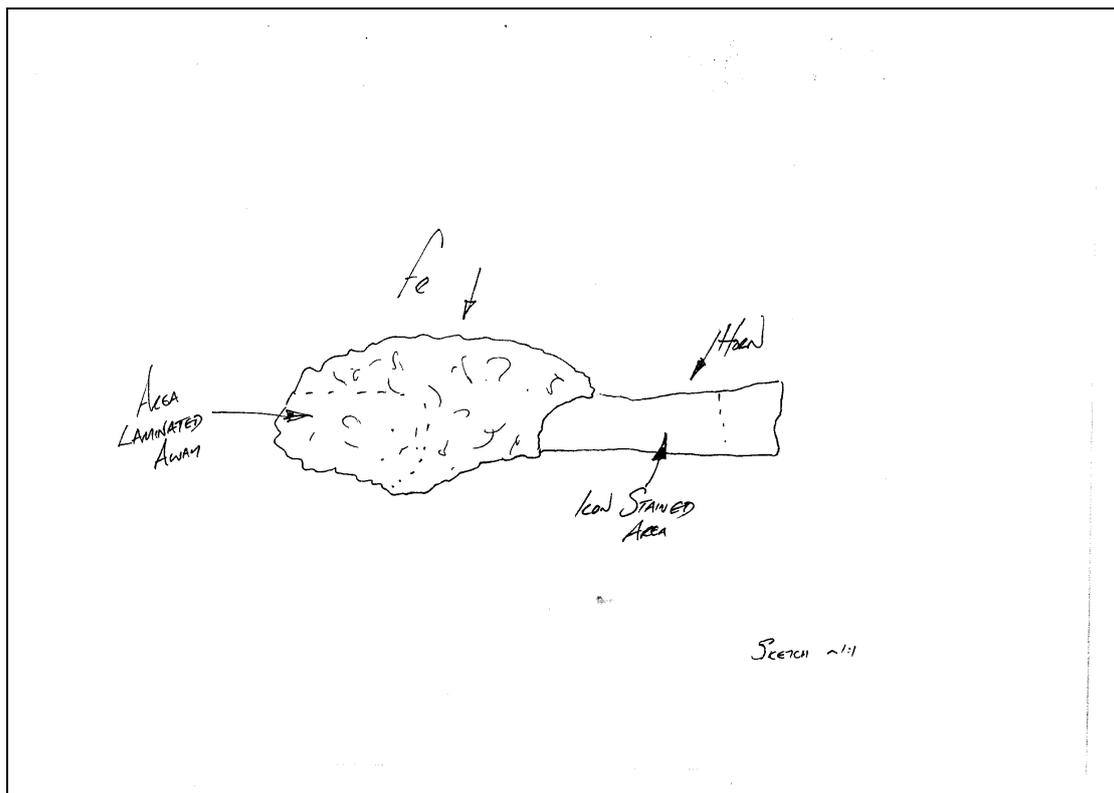
2.4.4 Recording conservation treatments

2.4.4.1 Paper records

Each registered find that is conserved **must** have an individual conservation record describing condition prior to conservation and treatment. Some objects and materials – leather shoe soles or offcuts, for example – are commonly recovered in large groups, recorded as 'bulk' in the Finds Inventory (Section 2.3.4.1) and processed in bulk in the laboratory. For these, a single conservation record for each context group is normally sufficient. If, on the other hand, a single object is taken out of a 'bulk' group for individual treatment eg a pottery vessel, being reconstructed for display or a sherd with painted decoration, it should generally be documented as an individually registered find (see 2.3.4.1), with a unique conservation record.

The Museum of London Conservation Department uses A5 proforma cards (Proformas 5a-d). These treatment records are the primary records for conservation. The treatment cards have information written on one side and space for a diagram or drawing of the object on the back. All information is written in a concise and prescribed format, see below and guidelines (Appendix 5). As an alternative to these cards, depositors may use their own A5 forms or cards, provided that similar information is recorded, and in a similar manner. All records must be completed with permanent black ink or a light-fast marker (see Additional Resources 1 for suppliers).

Prior storage:		MUSEUM OF LONDON		SITE CODE	ACCESSION NO.
TREATMENT		NGT00		319	
PROC	part / whole;	method;	tools, materials, conc;	time	
RMSO	immer;	taper	brush		
DEWA	immer;	IMS/deionna	50:50;	1wk.	
DEWA	immer;	IMS x2;	1wk		
CONS	immer;	Butter 898	10% in IMS/hydrox	80:20;	3 days
DCIA					7 days
Received by/date:		MUS 5336		M M	
		Site name		NEWGATE STREET	
		Material		HORNS + IRON	
		Simple name		KNIFE	
		Period		P.M.C.	
		Project		Heldwick	
		X-RAY		IMAGE	
		Technical report: Summary			
		Condition before: WET. HORN: - NO ORGANIC SURFACE, DIFFICULT LAYERS LAMINATE AWAY FROM CORE. IRON: - THIN LAYER OF SOIL + CORROSION, OBSCURE DETAIL			
		Comments after/storage:			
		Date completed		Conservator and Unit	
		11/02/2002		[Signature]	



The record about each object should include the following administrative details:

- Site code
- Site name
- Full registered find number
- Object name
- Material

- Conservator
- Excavating contractor
- Date treatment finished
- X-ray numbers (if applicable)
- Image information (if applicable)
- Technical report (if applicable)

For each step in the conservation treatment, there should be a separate statement including:

- Sequence number of the step (for digital records only)
- Treatment procedure
- Method
- Materials used
- Duration (*if applicable*)
- Notes (*if applicable*)

Examples of both the conservation and documentation terms used by the Museum of London are available (Appendix 5). Proformas of the treatment cards are available to download (Proforma 5a-d).

If Museum of London pre-printed treatment cards are used, treatment steps not undertaken should be crossed out.

Any drawings or diagrams that are created on paper, should be adhered to the back of the treatment card with conservation grade PVA adhesive.

If it proves necessary to retreat an object, a new record should be made for this and each subsequent treatment and stapled to the front of the previous treatment card with either brass or monel staples.

2.4.4.2 Digital records

All conservation records **must** also be submitted in digital form, as a spreadsheet or database (for acceptable forms of presentation, see Section 2.7.5).

The digital record should reproduce the information found on the original paper record (see 2.4.4.1).

2.4.4.3 Other records

If the object has been conserved an indication is also required on the Registered Find Card or record sheet (Section 2.2.4.2) and on the pre-printed finds label. Museum of London finds registration labels (2.6.10.2) include space to indicate the year the object was conserved and whether a technical report exists (2.4.5). If other pre-printed labels are used, they must have space for this information to be recorded on them.

2.4.5 Technical reports, samples and photographs

If analyses, technical observations or tests are made during treatment, a technical report is required. This may vary from identification of materials to a summary of analyses done by

external agents and should stand alone as a report. An example of a Museum of London technical report form is given in Appendix 6; a proforma is available to download (Proforma 6). These A4 forms or an equivalent must be used for the paper record; if they have been supplied by the analyst, any original reports of data should be included.

The report should include the following administrative details:

- Site code
- Site name
- Full registered find number
- Object name
- Material
- Conservator/analyst
- Excavating contractor
- Date analysis undertaken
- X-ray numbers (if applicable)
- Image information (if applicable)

For each observation/analysis, there should be a separate statement including:

- Method
- Results
- Conclusion

If a technical report is created, a summary should be included on the treatment record and its presence noted on the pre-printed label (Section 2.6.10.2).

Samples that have not yet been treated may occasionally be accepted for archival deposition, if a compelling case can be made for retaining them on the grounds of research potential. Samples of objects (eg untreated samples retained for future research, SEM stubs) should be retained with the object where possible and such samples should be recorded on the treatment card and the Registered Finds card. Other arrangements should be discussed with Museum of London conservators.

Photographs or negatives should be deposited as per other guidelines (see Sections 2.2.2 and 2.7.7).

2.4.6 Preservation *in situ* and reburial

When preservation *in situ* or reburial takes place, its documentation will normally be specified by English Heritage, in consultation with the site owner and future managers. Copies of all relevant documentation, including photographs and plans, should be deposited in the archive following guidelines set out elsewhere in this document (see Section 2.6).

2.4.7 Conservation assessment

If the project reaches the assessment stage (Section 1.3), conservation assessment should be carried out by a qualified conservator in conjunction with finds assessment (2.3.5). The aim of assessment is not only to guide future conservation and analytical work relating to the

research aims of the project, but also to identify potential for contributions to materials and conservation research.

The assessment report should include:

- A method statement, with reference to any briefs provided by finds specialists, the project supervisor or others
- A summary of conservation and technical work carried out at the fieldwork stage
- Assessment of the treatment required for those groups of material determined to have potential for further finds analysis
- Assessment of the work required to prepare the finds for archive deposition

For details of the standard information to be included in the header of all text reports, see Section 2.6.4.

2.4.8 Conservation at the post excavation analysis phase

Some of the analytical work recommended in the conservation assessment (Section 2.4.7) – particularly relating to finds technology – will be for publication purposes. In some cases, it may be appropriate to include in the Research Archive (1.4) an overview of the conservation treatments for the project, or a description of the treatment of an object or assemblage of objects.

2.4.9 Conservation at the archive deposition phase

Any work identified for archive deposition in the conservation assessment **must** be completed before the material will be accepted into the archive.