

Guidance on the processing and storage of metal artefacts recovered in Early Modern battlefield survey

Handling of finds in the field

Cleaning in the field, such as finger rubbing, is common practice by detectorists and is difficult to avoid when large numbers of artifacts are being rapidly assessed to determine whether they should be recorded or discarded. However such treatment should be avoided as far as practicable. It is better to de-accession objects at a later screening phase than risk potential damage to a delicate find.

Processing and storage of metal finds¹

While it is not generally considered good practice for excavated material, all metalwork from battlefield metal detecting survey will normally be been wet cleaned and air dried prior to recording and storage. This is essential for the efficient and effective processing and analysis of the large numbers of metal finds recovered during most battlefield surveys. *However, potentially significant ferrous artefacts should not be wet cleaned as this is likely to promote increased decay.* Unless exceptional decay has set in, as with the artefacts from the Wareham siege site, lead bullets should be cleaned by gently brushing with a soft toothbrush in water to ensure the whole of the surface, including all holes and indentations, are clear of soil. In addition if impact deposits, such as embedded grains from impact on a masonry surface, appear to be present then these deposits should be assessed prior to cleaning.

On initial processing, all ferrous finds should be extracted for separate storage. Material which is obviously modern should be discarded and the remainder then input into the database. These should then be prioritised for analysis, ensuring as far as possible that recording is undertaken before deterioration sets in, especially with ferrous artefacts.

Collections made by metal detectorist, particularly lead bullets, are often stored together in one or more containers with no subsidiary packing, as for example the box of more than 2000 bullets from Ballymore, now in the National Museum of Ireland. Even substantial collections of bullets from major excavations may be stored in bulk, as with those from the Vasa, which are held loosely in boxes of 100 bullets each and not individually numbered. Ideally the bullets in all collections should be individually bagged and numbered, whether or not originally individually recorded on site, as it enables analysis of each to be attributed to allow future re-assessment.

¹ This guidance has been prepared in consultation with Rob Janaway of Bradford University and is presented here as applied by the Battlefields Trust in the Edgehill Survey (2004-7) and the Bosworth Survey (2005-8).



Figure 11: Finds are dried in plastic seed tray compartments, each with its Tyvek label. They are then stored in individual bags with a foam support and Tyvek label



Figure 2: Perforated find bag partially labelled plus Tyvek label and foam support

Each find, when fully dry, is stored in a sealable polythene bag with white write-on strips. For most survey finds a 50*60mm bag is adequate. These are pierced towards the top to enable air circulation, and a 3mm thick square of plastozote foam added to provide protection and to enable the bags to be stored standing upright. For lead bullets this is particularly important as in all other situations abrasion occurs which can remove the important surface evidence of manufacture and use which is often held within the corrosion deposits. The white write-on strips are marked with Staedtler Lumocolor permanent Art Nr 313-5 black pens 0.4mm. Tyvek labels have been placed in each bag and marked with the find number, date, finder and GPS waymark number, using Sakura (XSDK005#49) 0.20mm pen. The individual finds are not normally marked unless they are to be removed for display. The bags are stored in sealed polyethylene boxes (e.g.: Stewart box 1781 clear: 13 litre) in order by find number in rows separated with corrugated plastic dividers and with a second level of bullets similarly organised in a tray with dividers, again of stapled corrugated plastic. Silica gel in a polyester or nylon netting bag or in a large polythene sealable bag with numerous small perforations (ideally 1 litre of silica gel to a 13 litre box) is also placed in the box to reduce moisture levels, and a humidity indicator strip placed in a visible location at the front of the box to enable monitoring of moisture levels. Ideally the boxes should be as full as possible so the least amount of air is present and so enabling easier reduction of the moisture levels. With large assemblages the

finds are normally stored separately according to metal type, but the bullets are also stored separately from other lead artefacts because of the danger of damage to fragile artefacts by the heavy bullets.



Figure 3: bags in find number order in compartments made from corrugated plastic



Figure 4: Storage in Stewart Boxes with indicator strip to monitor humidity. On left adequate humidity level shown by fully blue strip. The box on the right was recently opened and so temporarily has increased humidity, indicated by pink colour at top of indicator strip

Appropriate Humidity levels

Iron	Below 15% Relative Humidity
Copper alloys	Below 35% Relative Humidity
Lead	Can be stored at 55% RH, but preferably below 35% RH

Discard policy

It would appear that in most circumstances in England, a large proportion of this ferrous material can then be discarded as a large proportion is likely to be of post battle date and of little or no significance. Only if a specific research objective has been identified for the material, such as an assessment of the rates of decay taking part in different areas of the battlefield, is it likely that this material will need to be retained. Unless such discard takes place then the battlefield survey archive will be swamped by a large volume largely valueless ferrous material that will be expensive for museums to conserve in the long term.

Photography of metal detecting finds for record and for publication

Photography is now considered the normal and appropriate form of graphic record for cataloguing and archive purposes, as well as for publication of most metal artefacts recovered in battlefield survey in the UK. Digital imaging has been applied in both the Bosworth and the Edgehill surveys by the Battlefields Trust, in consultation with the Portable Antiquities Scheme, and by GUARD in its Culloden and other battlefield surveys.² It is also the normal [practice in battlefield investigation in the USA](#), as for example [applied by the National Parks Service](#). It is also accepted as appropriate for forensic reporting to the Crown Court in the UK.³ The use of drawing for the recording of metal finds, although still required by some planning archaeologists in England, is now viewed as an impractical, costly and unnecessary anachronism. Only in exceptional circumstances, where it is the only way to effectively convey specific essential detail, is drawing considered either necessary or justified.

The use of scanning of artefacts, rather than high resolution digital photography, is recommended by some Portable Antiquities Project officers for finds recovered in metal detecting survey. It was therefore the method selected for the recording of the finds from the Edgehill survey. While it has proved a quick and easy method to gain a basic image for record purposes of many of the smaller and thinner artefacts, such as coins or buckles, it has not proved ideal. It is thus not recommended here, because of the significant limitations of resolution and quality, not least with thicker objects such as bullets.

In any collection a sample of bullets should be photographed to provide a detailed record of all the types of features recorded in the analysis. At least until the point when adequate reference collections are available, this will provide future researchers with data that they can use to correlate analysis by different persons. A standard metric photographic scale should be included on all images, printed on paper from a file downloaded from:

http://www.vendian.org/mncharity/dir3/paper_rulers/

Archiving

A collection should finally be assessed by a conservation specialist to determine what finds, if any, require basic conservation prior to deposition in a museum archive.

² Information from Dr Tony Pollard, University of Glasgow

³ Information from Rob Janaway, University of Bradford