



ARCHAEOLOGICAL ARCHIVE STANDARDS

A Standard for the Creation, Compilation and Transfer of Archaeological Archives in Birmingham

By Robert Lewis, Rebecca Bridgman, Lucy Blakeman, Toby Watley and Ellen McAdam of *Birmingham Museum Trust*, and Samantha Paul of *Sam Paul Heritage*.

Version: 1 April 2019

Approved:

Contents

	NE SUMMARY – TASK LIST	1
	DUCTION	2
	RAPHICAL BOUNDARIES OF THE COLLECTING AREA	2
CONT	ACT DETAILS	2
1 Tł	HE ARCHIVAL PROCESS	3
1.1	PROJECT PLANNING	3
1.1.1	NOTIFYING THE MUSEUM	3
1.1.2	NOTIFYING OASIS	3
1.2	DATA GATHERING AND ANALYSIS	4
	PREPARATION OF THE ARCHAEOLOGICAL ARCHIVE	5
	THE ARCHIVES CONTENTS SPREADSHEET	5
	STATEMENT OF POTENTIAL AND SIGNIFICANCE	5
1.4	TRANSFER TO THE BIRMINGHAM MUSEUM TRUST	6
	DEPOSITION CHARGES	6
1.4.2	TRANSFER OF TITLE AND COPYRIGHT	6
2 A	RCHAEOLOGICAL ARCHIVE PREPARATION STANDARDS	7
2.1	ORGANISATION OF THE ARCHAEOLOGICAL ARCHIVE	7
2.1.1	PACKAGING	7
	THE ARCHIVE CONTENTS SPREADSHEET	8
	DOCUMENTARY ARCHIVE STANDARDS	9
	DOCUMENTS	9
	DRAWINGS	10
	Photographs	10
	DIGITAL	11
	MATERIAL ARCHIVE STANDARDS	12
	BULK FINDS	12
		13
	HUMAN REMAINS	14
2.4.4	ENVIRONMENTAL MATERIAL AND SCIENTIFIC SAMPLES	15
3 A	PPENDICES	16
1. GLC	DSSARY	
2. Sta	ANDARDS AND GUIDANCE	
3. Fiei	LDS IN THE ARCHIVE CONTENTS SPREADSHEET	
4. Ma ⁻	TERIAL ARCHIVE- RECOMMENDED TERMS	
5. Pro	DJECT NOTIFICATION FORM	
6. Inte	ENTION TO DEPOSIT FORM	

- 7. TRANSFER OF TITLE FORM
- 8. COPYRIGHT LICENCE FORM

Outline Summary – Task List

This is not intended as a workflow, but a list of tasks within the archival process

Project Planning

Depositor produces a project Design or WSI, a Data Management Plan, and a draft Selection Strategy (BMT recommends using the CIfA Selection Strategy Toolkit)

Depositor agrees the Selection Strategy with Birmingham City Council Archaeological Advisor

Depositor completes the Project Notification Form and sends to Birmingham Museum Trust along with the agreed Selection Strategy

Birmingham Museum Trust issues an accession number to the depositor

Birmingham Museum Trust sends the depositor copies of the relevant forms and a blank Archive Contents Spreadsheet

Depositor submits the project to OASIS

Owner of the material archive identified by the Depositor, and the principle of depositing the finds discussed

Data Gathering and Analysis

Depositor implements and develops the Selection Strategy

Depositor ensures all records and materials created and recovered throughout the project are labelled with the accession number provided by Birmingham Museum Trust

Depositor assures all finds recovered during the project are assessed specifically for Selection purposes

Depositor agrees final Selection Strategy with BCC Archaeological Advisor taking into account specialist advice.

Preparation of the Archaeological Archive

Depositor applies the final Selection Strategy to the Working Project Archive.

Depositor compiles the Archaeological Archive in line with the Birmingham Museum Trust Archaeological Archive Preparation Standards

Depositor documents the Archaeological archive (Documents, Digital, Material and deselected) using the Archive Contents Spreadsheet

Depositor compiles a Statement of Significance from project results and specialist reports.

Transfer to Birmingham Museum Trust

Depositor completes the Intention to Deposit form and includes/ attaches the Project Summary and Statement of Significance.

Depositor emails a digital copy of the Archive Contents Spreadsheet to Birmingham Museum Trust for integration into the EMu

Birmingham Museum Trust invoices the Depositor for payment of the deposition charges

The Depositor pays the deposition charges and agrees a deposition date with BMT

The Depositor completes the Transfer of Title form with the land owner and sends to BMT along with the Copyright Licence

The Depositor completes the OASIS record

The Depositor delivers the Archaeological Archive to The Museum collection Centre

Introduction

This document sets out the recommended standards and policy for all Archaeological Archives created from projects undertaken in the city of Birmingham, and (under exceptional circumstances, and for deposition only) the West Midlands Conurbation.

The purpose of the document is to ensure all new and undeposited Archaeological Archives in Birmingham meet a common standard, and are appropriately and consistently created, compiled and packaged to nationally agreed standards.

This document has been created in line with national and international standards and guidance on the creation and curation of Archaeological Archives. Appendix 2 details current standards and guidance that should be consulted alongside this document throughout the archival process.

Geographical Boundaries of the Collecting Area

Birmingham Museum Trust will act as the repository for archaeological archives created within the City of Birmingham. The deposition process for archaeological archives generated within Birmingham City is detailed in this document, along with the required Archaeological Archive Preparation Standards.

Following the Birmingham Museum Trust collecting policy, material from the West Midlands Conurbation (Dudley, Sandwell, Solihull, Walsall and Wolverhampton) may be accepted under exceptional circumstances. Archaeological archives from the West Midlands Conurbation will only be considered for accessioning <u>after</u> completion of the project on a case-by-case basis. Any archives from the West Midlands Conurbation accepted for accessioning into Birmingham Museum Trust's collections would require preparation to the archaeological archiving standards detailed in this document.

Contact Details

The Archaeological Archiving forms should be e-mailed to the Collections and Storage Officer, along with all other enquiries.

mcc@birminghammuseums.org.uk

Museum Collection Centre

25 Dollman St,

Birmingham

B7 4RQ

0121 348 8231

1 The Archival Process

1.1 PROJECT PLANNING

The majority of projects within Birmingham will adhere to a proposal or brief produced by Birmingham City Council (BCC). The brief will require that any project undertaken in the city is to adhere to the standards set out in this document. If no brief has been issued for developer led projects, the Birmingham City Council Archaeological Advisor should be contacted to request one. In the case of Archaeological Projects that are not subject to a brief i.e. community projects, pre-planning projects and academic research projects, the standards outlined in this document will still need to be met.

A Project Design should be produced for each new project, referring to the standards that are to be followed during the project i.e. this document, national and international guidelines (ADS (1), Brown (2011), ClfA (2014a) and Perrin *et al.* (2014) etc.) and any in-house manuals etc.

A Selection Strategy should be agreed at the project planning stage with Birmingham City Council Archaeological Advisor. The Selection Strategy should set out the project specific selection process that will be applied to the working project archive prior to its transfer to Birmingham Museum Trust as the Archaeological Archive. Birmingham Museums Trust recommends use of the CIfA Selection Toolkit during the formulation of a selection strategy (CIFA 2019).

1.1.1 Notifying the Museum

Following agreement of the Project Design and Selection Strategy with BCC Archaeological Advisor, organisations wishing to deposit an Archaeological Archive must notify Birmingham Museum Trust through submission of the **Project Notification Form** (Appendix 5). Notification must take place PRIOR to any work commencing, and each fieldwork stage of a multi-phase project will require a new notification. Birmingham Museum Trust reserves the right to refuse to accept Archives not notified to them in advance of the work commencing. A copy of the Selection Strategy should accompany the Project Notification Form.

The request will be assessed at a monthly Collections Committee meeting, chaired by the Director of Collections, where the committee will recommend a decision based on BMT's collecting policy. These recommendations will then be presented to the Director of BMT and senior management team, for final approval.

The Museum will assign an **accession number** for the archaeological archive before a project begins. The assigned accession number is to be used throughout the project to identify all associated documents and materials.

1.1.2 Notifying OASIS

The Depositor will submit their project to OASIS (www.oasis.ac.uk) before work on site begins through the completion of the data collection form.

1.2 DATA GATHERING AND ANALYSIS

The relationship between the Archive and its origin (the site or finds assemblage etc.) should be clear throughout, and it should be possible to link all parts of the Archive back to their point of origin (i.e. through the use of the accession number marked on all records and finds). All elements of the Archive should form a seamless whole, facilitating movement between each part of the Archive and the relationship between the project and the wider archaeological record should be clear.

Terminologies and numbering systems should be consistently used throughout the creation of project records and during analysis of the material Archive. Where standardised and accepted terminology exists (i.e. glossaries, thesauri and standards from regional or national subject specialist groups such as the Prehistoric Ceramics Research Group, Study Group for Roman Pottery and Medieval Pottery Research group 2016) they should be used throughout and cited in the Archive.

The agreed Selection Strategy should be implemented and developed through the course of the project. Any finds recovered during the project should be assessed specifically for Selection purposes and Birmingham City Council involved in any changes to the agreed strategy (see the CIfA Selection Toolkit for further guidance, CIfA 2019).

In the event that exceptional discoveries are made during data gathering or analysis, Birmingham Museum Trust should be contacted and invited to visit the project, i.e. in the field.

To assist in the final compilation of the archaeological archive, the following requirements should be made part of the remit of the finds specialist (in line with the agreed Selection Strategy).

- Bagging of bulk material identified as of low significance, unstratified or unidentifiable separately from the material selected for retention in the Preserved Archive.
- Suggesting appropriate samples of bulk material and bagging those separately.
- The separation of ferrous metal considered too corroded or fragmentary to be of future use from that selected for inclusion in the Preserved Archive.
- The provision of a Statement of Potential and Significance as either part of the specialist report, or as a separate document.

1.3 PREPARATION OF THE ARCHAEOLOGICAL ARCHIVE

The archaeological Archive must be prepared and packaged for deposition in line with the Archaeological Archive Preparation Standards detailed in this document, and documented via the Archive Contents Spreadsheet.

1.3.1 The Archives Contents Spreadsheet

All archives should be deposited with sufficient accompanying documentation to ensure that they are completely accessible to any future examination. All parts of the archive should be adequately cross-referenced, numbering systems (and any changes to these during the fieldwork or post-excavation stages) should be fully explained, and locating any specific archive element, e.g. context record sheet, bag of pottery, digital file, should be straightforward.

The Archive Contents Spreadsheet aims to collate information about all parts of the archive in a single searchable database. In order to increase the accessibility of archaeological archives held by Birmingham Museum Trust, the Archive Contents Spreadsheet has been designed to import directly into the museum's EMu. Details on how to complete the Archive Contents Spreadsheet can be found in the Archaeological Archive Preparation Standards section in this Document.

1.3.2 Statement of Potential and Significance

A Statement of Potential and Significance document, highlighting the future potential or significance of each category of material selected for inclusion in the Archive must accompany all Archaeological Archives. This information should be requested as part of the analysis process and can be either copied from the specialist report or a separate document created as the specialist sees fit.

The Statement of Potential and Significance should refer to any on-going research priorities for Birmingham or the wider region, and consider <u>one</u> or more of the following:

- Research
- Display
- Public engagement
- Outreach
- Teaching

The Statement of Potential and Significance should be emailed to the Museum prior to deposition and a copy included in box 1 of the documentary Archive and a duplicate in the first box of the finds Archive.

1.4 TRANSFER TO THE BIRMINGHAM MUSEUM TRUST

In order to book a time-slot for the deposition of the Archaeological Archive at the Museum Collection Centre, Birmingham Museum Trust must be provided with a completed and signed copy of the **Intention to Deposit Form** (Appendix 6) which details the size and condition of the archaeological archive as well as providing a Project Summary and the Statement of Potential and Significance. A digital copy of the Archive Contents Spreadsheed must be emailed to Birmingham Museum Trust along with the Intention to Deposit form.

1.4.1 Deposition charges

Once the Museum has been notified and agreed to the final quantities of material to be deposited, an invoice for payment of the deposition charge will be raised and a deposition date agreed.

An initial admin charge will be made per archaeological archive of $\underline{\mathbf{5345}}$ to include deposition of <u>one</u> archive box, tube or object. A $\underline{\mathbf{595}}$ per box charge will be made for each additional archive box, tube or object. These deposition charges will be levied against archives from Birmingham City and the West Midlands Conurbation.

Deposition will only take place following payment of the invoice in full.

Note: The above charges exclude VAT.

1.4.2 Transfer of Title and Copyright

The Museum only accepts Archives that are deposited with full Transfer of Title with regards to ownership of the associated objects. Lack of a completed **Transfer of Title Form** (Appendix 7) may result in the Museum refusing to accept the Archive.

The Museum requires the right to research, study, display, publish and provide public access to the Archives in its care. Therefore, the Museum only accepts Archives that are deposited with written licence to copyright in perpetuity for all associated intellectual property including reports, photographs, and drawings. Lack of a completed **Copyright Licence Form** (Appendix 8) may result in the Museum refusing to accept the Archive.

The OASIS data collection form should be completed (www.oasis.ac.uk) detailing the archaeological archives contents and location, and a grey literature report deposited.

2 Archaeological Archive Preparation standards

2.1 ORGANISATION OF THE ARCHAEOLOGICAL ARCHIVE

All numbered records must be stored in numerical order and the documentary archive should be categorized (as far as possible) by:

Project planning

Reports and publication

Fieldwork data

Post-fieldwork analysis

Finds data

Finds analysis

Environmental data

Environmental analysis

Photographs

Documentary material

Press and publicity

All materials must be stored in context order, and categorized (as far as possible) by:

Bulk Finds Registered Finds Animal Bone Human Bone Shell

2.1.1 Packaging

Archives should be packed in line with the Archaeological Archive Preparation Standards detailed in this document. Use only archival quality packing materials in good condition, including polythene bags with write-on panels, acid-free cardboard boxes with brass staples, acid-free cardboard tubes, crystal boxes and airtight polythene tubs. Archaeological archives should be prepared using the following **box sizes**:

Bulk finds:	$450(I) \times 270(w) \times 210(h)$ external dimensions, full height drop-down lids.
Documentary:	acid-free clamshell document cases
	387(l) x 260(w) x 44(h) mm or 387(l) x 260(w) x 76(h) mm.
Drawings:	loosely rolled into tubes of an appropriate length.
Small finds/metal:	sealable polypropylene ('Stewart') tubs.

2.1.2 The Archive contents Spreadsheet

The Archive Contents Spreadsheet functions as an overall contents list for the archive, and a printout of the relevant columns should be included in the first box of the Documentary Archive and a copy should accompany the deposited digital archive. If no documentary archive is to be deposited then a printout of the relevant columns should be included in the first box of the material archive. Individual lines or groups of lines of the spreadsheet can also be printed and included as Box Contents lists in the Material Archive boxes.

Each 'object' within the Archive requires its own row on the spreadsheet. An 'object' is a Registered find, an individual context in a box of bulk material, individual human remains or a specific element of the Documentary Archive such as context sheets or the grey literature report. For example:

- Each Registered find will have its own line on the spreadsheet.
- A bulk box of pottery containing seven contexts will require a minimum of seven lines on the spreadsheet – contexts containing pottery of more than one period will be split by period.
- ♦ A bulk finds box containing material from three contexts, but in a number of material types, will require a line for each material type within each context. The same will apply to document cases containing mixed record types.
- If an individual skeleton (or large context of bulk material) is divided over two boxes, two lines on the spreadsheet will be required, as the Box Number will differ. The same will apply if, for example, context records are split between several document cases.

The Archives Contents Spreadsheet details not only the Documentary (including digital) and Material Archive selected for long-term retention, but also the material dispersed or discarded through the selection process. Fields in the Archives Contents Spreadsheet are defined in Appendix 3.

2.2 DOCUMENTARY ARCHIVE STANDARDS

Birmingham Museum Trust will accept paper documentation where it does not exist in a digital form, but prefers the creation of digital archival materials that are submitted to ADS.

2.2.1 Documents

Data Gathering and Analysis

- All Archive material must be stored in the best conditions possible to avoid fading, damage and loss.
- All paper records are made on high quality paper or card and completed using black ballpoint pen or permanent black ink.
- All types of records must be produced to a consistent format and pro-forma should be printed not photocopied.
- All documents must be marked with the accession number, completion date and author (where appropriate).
- At all stages of management of the written archive, the use of non-metal fastenings, such as plastic paperclips or Treasury Tags is recommended.

Preparation of the Archaeological Archive

- All elements of the paper Archive must be classified and labelled to identify their function (i.e. Context sheet, Photographic Register)
- Documents of the same type should be organised in a logical/ numerical order accompanied by an index.
- Documents of the same type should be bundled together using plastic treasury tags or plastic paperclips.
- Remove all rubber bands and clips from the Archive prior to deposition.
- All parts of the paper Archive must be marked with the accession number and site name where possible.
- All documentary boxes, cases, folders and wallets must be marked with the accession number, Site name and Ward, box series number and unique identifier (if applicable) using black permanent ink on the narrow end of the box.

Accession No.	Unique ID
Site Name and Ward	Box series no.

- Do not use adhesive labels on any part of the Archive including wallets and boxes.
- Any oversized items that belong to the documentary Archive that cannot be packaged using the specified boxes or containers must be packaged in such a way as has been agreed with the Museum prior to deposition.

The paper Archive must include

- An overall contents list (in box 1) created from the Archives Contents Spread Sheet detailing the documentary (including digital) and material Archive.
- A copy of the Selection Strategy (in box 1).
- All original on-site records (plans, context and other recording sheets etc.) as well as those created during the post-excavation process (specialist recording sheets and finds drawings etc.).
- A Statement of Potential and Significance for each material type selected for inclusion in the material Archive (in box 1)
- The project specification, Project Design and any correspondence relating to the Archive.
- All specialists reports
- 2 copies of the report and any published material (published material may be sent on at a later date).

NOTE: If all documentary material is to be archived digitally, a copy of the report, the Statement of Potential and Significance, the Selection Strategy and a full catalogue of the material deposited with the ADS must be included with the material archive (in box 1).

2.2.2 Drawings

Data Gathering and Analysis

- Field drawings must be made on stable drawing film using a hard pencil (at least 4H).
- Mark all drawing sheets with the accession number, Project name, Drawing number, title, scale, north arrow (if appropriate), key, date, author and appropriate location information.
- Do not ink over original pencil drawings.
- All drawings must be stored in conditions that minimize the risk of damage or loss.

Preparation of the Archaeological Archive

- All drawings on film exceeding A4 size should be rolled and presented LOOSELY rolled in acid-free storage tubes.
- Drawings that fit unfolded, may be housed in the documentary Archival boxes.
- Do not use adhesive tape or labels of any kind.
- The paper Archive must include an index of all drawings.

2.2.3 Photographs

Data Gathering and Analysis

NOTE: It is strongly recommended that from the issue of this document, digital photographs provide the primary method for photographic recording in Birmingham.

- For recommended standards regarding digital photography for archaeologists see Historic England Digital Image Capture and File Storage (2015a).
- All record photographs must include either the image metadata as the Exif (Exchangeable Image File) data or an information board detailing the accession number and context number or subject identifier, scale and north arrow.

Preparation of the Archaeological Archive

• The documentary Archive must include an index of all photographs detailing the category of film, film number, frame number, title/subject, date and initials of the photographer.

Analogue photographs

- Photographs should be classified by type with negatives, prints, transparencies, x-radiographs etc. categorised separately.
- Photographic prints, x-radiographs and negatives should be stored in archival quality polyester envelopes or acid free paper/card enclosures.
- Mark print on the back using soft pencil with the accession number, film number and frame number.
- Mark negative holders (not negatives) with the accession number, film number and frame number.
- Mark transparency mounts (not the film) with the accession number, film number and frame number.
- Mark x-radiographs holders with the accession number, film number and frame number.
- Store photographs in documentary boxes marked with the site name, box sequence number and Accession Number.

2.2.4 Digital

A digital Archive comprises all born-digital material; including text, data, drawings, 3D models, photographs, video, as well as files generated from digitised material, such as data entered from pro-forma and scanned images or text (Brown, 2011).

Birmingham Museum Trust is not a specialist digital media repository and digital archives should therefore be transferred to a Trusted Digital Repository to ensure preservation and accessibility (Forster 2019). Deposition with the Archaeology Data Service (ADS) is recommended (Perrin et al. 2014, Brown 2011). This can currently be achieved either through the transfer of files to ADS (including the use of ADS-easy), or through the OASIS record for small sites (deposition of site report plus up to 50 photographs).

All born digital material MUST be archived digitally (subject to the agreed Selection Strategy and version control). Examples of born digital material include:

- Digital photographs
- Digitally created site records (digital context sheets/ records/ registers)
- Geophysical survey and remote sensing (geophysics. LiDAR, Laser scanning, GPS survey etc.)
- 3D laser survey (building or landscape)
- GIS data

Examples of digitally transferred data include:

- Databases (context data, finds catalogues, specialists data etc.)
- CAD plans and models
- Scanned analogue photographs
- Scanned hard copy site records

The digital Archive must be compiled with reference to the ADS advice on data management plans (ADS 1), guidelines to good practice (ADS 2) and guidelines for Depositors (ADS 3).

Digital archiving charges must be met in full by the Depositor, and do not form part of any charge levied by the Birmingham Museum Trust.

2.4 MATERIAL ARCHIVE STANDARDS

2.4.1 Bulk finds

Bulk finds often occur in quantity i.e. pottery, ceramic building material, slag, stone etc. and generally require no specific treatment or specialist storage conditions, although this should not be taken as an invariable rule. Animal bone should be archived following the standards for Bulk finds.

Data Gathering and Analysis

- Recovery of finds must be undertaken to a standard that minimises damage, cross contamination or loss.
- Finds must be cleaned to recognised standards as described in nationally accepted documents such as First Aid for Finds (Watkinson and Neal 1998).
- Finds must be treated and recorded in accordance with current accepted standards (e.g. ClfA Standards and Guidance 2014a and those outlined by subject specialist groups such as the Prehistoric Ceramics Research Group *et al.* 2016).
- All finds must be stored, at all times, in conditions that minimize the risk of damage, deterioration or loss.
- When transporting any part of the material archive, the finds must be packed appropriately to avoid damage and cross contamination.

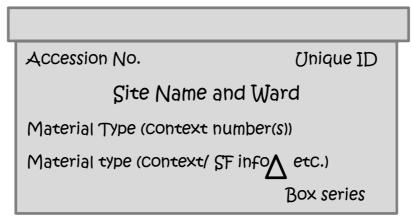
Preparation of the Archaeological Archive

- All finds submitted as part of the Archive must be stable, clean and packed in accordance with the requirements set out below.
- All bulk finds must be marked with the accession number and context number.
- Where an object is too small to mark directly, ensure that they are packed in marked containers that include a tyvek label clearly marked in permanent ink with the accession number and context number.
- Where an object is too large to be packed into a standard box, ensure that a tie-on tyvek label is attached, clearly marked in permanent ink with the accession number and context number.
- Mark all bags/ containers in black permanent ink with the accession number and context number.
- All bags must contain a Tyvek label clearly marked in black permanent ink with the accession number, context identifier, material type and the number of fragments present.
- Bulk finds must be sorted and packed in order of material type and context identifier. (A list of recommended terms for Material Group and Type can be found in Appendix 4)
- Illustrated finds should be packed with material of the same type, but must be bagged separately and the bag clearly labelled as 'illustrated'.
- Each box must contain a box contents list, which can be created from the Archive Contents Spread Sheet.

Packing

- Use only archival quality packing materials in good condition, including polythene bags and acid-free cardboard boxes with brass staples.
- Bulk finds must be packed to minimise the risk of damage. Pack finds by material types, avoiding using the same box for both heavy and fragile objects.
- Where a site has only a very limited number of finds (no more than one box) it is acceptable to place all bulk material types in one box. Different materials must, however, still be bagged separately.
- Where appropriate, use acid free tissue or inert, polythene foam to support objects when packing them into boxes.
- Boxes must be marked on one end with the accession number, unique identifier (if applicable), Site name and Ward, Material type or types, Context number(s) for each material type and box sequence number as shown below. Use black permanent ink and

make sure the lid does not obscure the information.



• Do not use adhesive labels on boxes or containers.

Weight restrictions

- The Museum will not accept boxes that have been over-filled and any one box should not weigh more than 10kg.
- No individual item of the Archive may weigh more than 10kg, unless its inclusion has previously been agreed with the Museum.
- Any individual item (e.g. a box, bag or object) forming part of the Archive that is heavier than 10kg should be clearly labelled "Heavy".

Outsized objects

- Outsized items (e.g. stonework) that cannot be safely boxed should be labelled by means of a Tyvek label clearly marked in permanent ink and securely tied to the object with archival-grade string or cotton tape.
- In the case of very large objects (over 0.5m x 0.5m), the Museum must be notified in advance of deposition in order to assess the best means of storage.
- Large objects over 1.0m x 1.0m that cannot be stored on Museum shelving must be delivered on a heavy-duty pallet that supports the weight of the object (with prior agreement from the Museum).
- The accepting Museum must be notified of outsized objects prior to deposition so that the necessary storage space can be made available.

2.4.2 Registered finds

Registered finds include objects that are recorded in more detail, such as flint tools, and sensitive materials that require controlled storage conditions e.g. metalwork, textiles, ancient glass, leather, worked bone and plant remains. Registered finds are issued their own identifier and are catalogued individually.

Data Gathering and Analysis

- Recovery of finds must be undertaken to a standard that minimises damage, cross contamination or loss.
- Finds must be cleaned to recognised standards as described in nationally accepted documents such as First Aid for Finds (Watkinson and Neal 1998).
- Finds must be treated and recorded in accordance with current accepted standards (e.g. CIfA Standards and Guidance 2014a and those outlined by subject specialist groups).
- All finds must be stored, at all times, in conditions that minimize the risk of damage, deterioration or loss.
- When transporting any part of the material Archive, the finds must be packed appropriately to avoid damage and cross contamination.
- The Depositor is responsible for all conservation carried out prior to accessioning and must ensure that an ICON-accredited conservator carries out such work.

• Textiles, leather and other finds recovered in a waterlogged condition must be conserved to a dry state (eg by freeze-drying) before deposition; the Museum will not accept finds in a waterlogged state.

Preparation of the Archaeological Archive

- Registered finds must be packed individually in a grip-seal polythene bag or a clear polystyrene box (crystal box).
- Finds in boxes should be supported on pads or cushions of acid free tissue or polyethylene foam to prevent movement. They should be packed in a way that allows them to be viewed without having to remove them from the box, usually by nesting them in a block of white polyethylene foam. It is not advisable to wrap objects in tissue because the act of unwrapping could cause damage.
- Mark individual bags or crystal boxes with the Accession Number, context and registered find numbers (in a unique sequence) in black permanent ink. Place a Tyvek label clearly marked in permanent ink with the same information, inside each bag and facing outwards behind the supporting tissue paper in order to be readable without having to open the bag.
- Finds should then be boxed in sealable polypropylene (e.g. `Stewart') boxes by Registered Find number.
- Box material groups/ types separately (Appendix 4). Metal and organic finds require different storage environments and must not be boxed together.
- Self-indicating orange to colourless bead silica gel and humidity strips must be included in boxes containing metalwork. Use sewn pre-packed silica gel bags or loose silica gel in pierced polythene bags. Use 20% weight by volume (e.g. 200g gel for a 1 litre box) and write the weight of the gel on the bag. Ensure that all empty space in the tub is filled with packing material (eg foam), as this slows deterioration.
- Silica gel may also be used as 'buffering' with other unstable material, such as delicate organics (e.g. worked bone, wood), amber and some glass. In this case the silica gel is forced to a particular moisture content (this must be done by a qualified conservator) so that it will buffer the object's surroundings and prevent the fluctuations in humidity that cause physical cracking and damage.
- Metal objects must be recorded by X-radiography during data-gathering and all x-radiographs must be included in the Documentary Archive.
- Boxes must be marked on the lid and one end with the accession number, site name and Ward, Material type or types, Context number(s), registered find number(s) and box sequence number (as shown above) using black permanent ink. Box numbers should follow on from the Bulk Finds boxes, and should be listed on the same Box Index
- All boxes should contain a box contents list generated from the archive contents spreadsheet.

2.4.3 Human Remains

Data Gathering and Analysis

- Treat human remains with respect at all times, in accordance with national standards (DCMS 2005, APABE 2017).
- The Museum must be contacted as early as possible during the project to discuss the inclusion of human remains within the archive.
- Where a licence for excavating human remains has set a time limit for research and a requirement of reburial, this information must be available to all parties involved with the Working Project Archive.
- Human remains must, at all times be stored in secure stores accessible only to authorized personal.

Preparation of the Archaeological Archive

• The Museum will not acquire any human remains for which a licence would be required under the terms of the Human Tissue Act 2006.

- If human remains are accepted as part of the Preserved Archive, they must be marked with the accession number and context number in a discreet location away from any identifiable features or pathology. Cremated bone should not be marked.
- Unburnt bone should be bagged by skeletal part and boxed by individual, and boxes should not normally contain more than one individual. Exceptions may include partial skeletons, or young individuals which take up less space, but these must be clearly separated within boxes, and preferably separated by layers of supporting foam. Disarticulated bone should be boxed by context. Do not overfill boxes, and ensure that all bone is adequately supported within boxes to avoid damage.
- Cremated bone should be boxed by context. Do not overfill boxes, and ensure that individual bags are adequately supported within boxes to avoid damage.

2.4.4 Environmental material and Scientific samples

Materials created by scientific sampling include environmental remains, thin sections and microfossil slides.

Data Gathering and Analysis

- The sampling process must be fully documented through the use of environmental sample sheets, context sheets, sample registers and relevant section drawings etc.
- Each sample must be given a unique sample number, which must be marked on the object and/or associated labels along with the accession number for the project and other relevant data.
- If a sample is destroyed through analysis (i.e. C-14 samples) then all data derived from the process must be included in the Archive.
- Finds from the sorting of dry residues must be stored in conditions appropriate to the material type.

Preparation of the Preserved Archive

Environmental material extracted from soil samples

- All environmental samples included in the archaeological archive must be fully processed; the Museum will not accept unprocessed samples.
- Pack environmental material in gripseal plastic bags, or in glass tubes or bottles (the smallest tubes are best inserted into plastic bags, for ease of handling and packing in boxes, but ensure that the covering bag carries the same site/context/sample information as the tube).
- Each sample's bag/ container must be permanently marked or labelled with the accession number, sample number and other relevant data.
- All samples must be fully documented and all relevant data i.e. databases, photographs, drawings or publications included in the Archive.
- All processed samples included in the Archive must be boxed separately from bulk and registered finds (bulk finds packaging standards apply).

Scientific Samples

- Each sample must be permanently marked or labelled with the accession number, sample number and other relevant data (where possible).
- Pack bags or containers in cardboard boxes by sample type (e.g. charred plant remains, charcoal, etc), as for bulk finds; if using glass containers, ensure that boxes are not overfilled, and use sufficient supporting packaging to protect the containers against breakage. Microscope slides must be packaged in boxes designed for the purpose.
- All samples must be fully documented and all relevant data i.e. databases, photographs, drawings or publications included in the Archive.
- Waterlogged samples should be dried out before deposition; the Museum will not accept samples in a waterlogged state.

3 Appendices

- 1. Glossary
- 2. Standards and Guidance
- 3. Fields in the Archive Contents Spreadsheet
- 4. Material archive- Recommended terms
- 5. Project Notification Form
- 6. Intention to Deposit Form
- 7. Transfer of Title Form
- 8. Copyright licence form

APPENDIX 1. Glossary

A	
Archaeological	All records and materials recovered during an Archaeological Project and identified
Archive	for long-term preservation, including artefacts, ecofacts and other environmental
	remains, waste products, scientific samples and also written and visual
	documentation in paper, film and digital form (Perrin et al. 2014, 20).
Archaeological	Any programme of work that involves the collection and/or production of information
Project	about an archaeological site, assemblage or object in any environment, including in
	the field, under water, at a desk or in a laboratory. Examples of an Archaeological
	Project include: intrusive projects such as excavation, field evaluation, watching
	brief, surface recovery and the destructive analysis of objects; non-intrusive projects
	such as landscape or building survey, aerial survey, remote sensing, off-site
	research such as desk-based assessment and the recording of objects or object
	assemblages. (Perrin et al. 2014, 20). One result of an Archaeological Project will
	be an Archaeological Archive.
Data Management	Details how all digital data will be created and managed during a project and
Plan	outlines the plans for sharing and preservation following the completion of a project.
Depositor	The individual or organisation wishing to deposit the archaeological archive for long-
	term storage and curatorial care.
De-Selected Material	The parts of the Working Project Archive not selected for inclusion in the
	Archaeological Archive.
Digital Data	All documents and records in digital form, including: correspondence, contracts,
	specifications, notes, records, pro-forma, indexes, catalogues, reports, maps, plans,
	section drawings, elevations, site photographs, object images, CAD files,
	databases, digital aerial photograph interpretations, geophysical and other survey
	data, GIS files, audio records, images, satellite imagery, spreadsheets, text files,
	analytical results and 3-D data.
Dispersal	The process of dealing with De-selected Material, including incorporation into
	handling boxes, donation to reference collections, or destruction. All Stakeholders
	should be included in determining methods of dispersal.
Documents	All documents and records in paper or film form, including: correspondence,
	contracts, specifications, notes, records, pro-forma, indexes, catalogues, reports,
	maps, plans, section drawings, elevations, site photographs, object images and x-
	rays.
Materials	All materials recovered during an Archaeological Project including:
	Artefacts, such as pottery, tile, worked stone, glass, metalwork, worked bone,
	leather and textile;
	Biological remains, such as animal bone and botanical material;
	Waste products, such as industrial residue, hammerscale and off-cuts;
	Material extracted during analysis, such as thin-sections, microfossil slides,
Selection	dendrochronological specimens.
	The process of applying a Selection Strategy to a Working Project Archive to determine which archive components, including documents, digital files and material
	objects, should be included in the Archaeological Archive. The aim of selection is to
	ensure that the Archaeological Archive contains everything required to establish the
	significance of the project and support future research, outreach, engagement,
	display and learning activities.
Selection Strategy	The methodology detailing the project-specific Selection process, agreed by all
Selection Strategy	Stakeholders, which will be applied to the Working Project Archive in order to create
	the Archaeological Archive.
Working Project	All the records and materials gathered during an Archaeological Project and
Archive	retained for analysis prior to Selection for the Archaeological Archive.

APPENDIX 2. Standards and Guidance

This bibliography is accurate at the time of publication (2019). Revisions, superseding texts or updated versions of these standards and guidance must be taken into account.

General Standards and Guidance

Baxter, K., Boyle, G. and Creighton, L. (2018) *Guidance for the Rationalisation of Museum Archaeology Collections*. Society for Museum Archaeology

Brown, D.H. (2011a) *Archaeological Archives – a guide to best practice in creation, compilation, transfer and curation.* Second Edition. Archaeological Archives Forum (AAF)

Brown, D.H. (2011b) *Safeguarding Archaeological Information – Procedures for Minimising Risk to Un-deposited Archaeological Archives* English Heritage

Chartered Institute for Archaeologists (CIfA) (2014a) *Standard and guidance for the collection, documentation, conservation and research of archaeological materials*

Chartered Institute for Archaeologists (CIfA) (2014b) *Standard and guidance for the creation, compilation, transfer and deposition of archaeological archives*

Chartered Institute for Archaeologists (CIfA) (2019) Toolkit for Selecting Archaeological Archives https://www.archaeologists.net/selection-toolkit

Collections Trust (2009). *Labelling and marking museum objects*. <u>http://www.collectionstrust.org.uk/images/documents/c1/a453/f6/Labelling and Marking booklet.pdf</u>

FISH (2018) *Forum on Information Standards in Heritage (FISH) Thesauri* <u>http://www.heritage-standards.org.uk/</u> and <u>http://thesaurus.historicengland.org.uk/</u>

Historic England (2015) Management of Research Projects in the Historic Environment: The MoRPHE Project Managers' Guide HEAG024 v1.2

Historic England (2008) *MoRPHE (Management of Research Projects in the Historic Environment) Project Planning Note 3: Archaeological Excavation*

Museum and Galleries Commission (1992) *Standards in the Museum Care of Archaeological Collections*

Perrin, K., Brown, D.H., Lange, G., Bibby, D., Carlsson, A., Degraeve, A., Kuna, M., Larsson, Y., Pálsdóttir, S.U., Stoll-Tucker, B., Dunning, C. and Rogalla Von Bieberstein, A. (2014) *The Standard and Guide to Best Practice for Archaeological Archiving in Europe* (EAC Guidelines 1) http://archaeologydataservice.ac.uk/arches/Wiki.jsp?page=The%20Standard%20and%20Guide%20to%20Best%20Practice%20in%20Archaeological%20Archiving%20in%20Europe

Society for Museum Archaeology (SMA) (1993) *Selection, Retention and Dispersal of Archaeological Collections.* SMA

Watkinson, D and Neal, V (1998) First Aid for Finds (Third Edition; London; Rescue/UKIC Archaeology Section, revised 2001)

Research Frameworks - National

Ancient Human Occupation of Britain (AHOB) Key Research Questions: <u>http://www.ahobproject.org/AHOBI/key_questions.html</u>

Bayley, J., Crossley, D. and Ponting, M. (2008) *Metals and Metalworking. A research framework for archaeometallurgy*. HMS Occasional Publication No. 6.

Blinkhorn, E. and Milner, N. (2013) *Mesolithic Research and Conservation Framework 2013* <u>http://archaeologydataservice.ac.uk/archiveDS/archiveDownload?t=arch-1632-</u> <u>1/dissemination/pdf/MRF_complete.pdf</u>

Blinkhorn, E. and Milner, N. (2013) *Developing a Mesolithic Research and Conservation Framework. Resource Assessment.*

http://archaeologydataservice.ac.uk/archiveDS/archiveDownload?t=arch-1632-

1/dissemination/pdf/Resource Assessment 2013-10-05.pdf

Haselgrove, C., Armit, I., Champion, T., Creighton, J., Gwilt, A., Hill, J.D., Hunter, F. and Woodward, A. (2001) *Understanding the British Iron Age: an agenda for action*. Draft Report of a Working Party of members of the Iron Age Research Seminar. <u>http://www.personal.reading.ac.uk/~lascretn/IAAgenda.htm</u>.

Historic England (2008) *Research and Conservation Framework for the British Palaeolithic*. <u>https://content.historicengland.org.uk/images-books/publications/research-and-conservation-framework-for-british-palaeolithic/palaeolithic-framework.pdf/</u>

Historic England (2010) *Research Strategy for Prehistory Draft Consultation*. Available at: <u>https://content.historicengland.org.uk/content/docs/research/draft-prehistoric-strategy.pdf</u>

Historic England (2010) *A Thematic Research Strategy for the Historic Industrial Environment*. <u>https://content.historicengland.org.uk/content/docs/research/industrial-research-strategy.pdf</u>

Historic England (2010) *A Thematic Research Strategy for the Urban Historic Environment*. <u>https://content.historicengland.org.uk/content/docs/research/draft-urban-strategy.pdf</u>

Historic England (2012) *Research Strategy for the Roman-Period Historic Environment*. <u>https://content.historicengland.org.uk/content/docs/research/rm-res-strat-1202-v22.pdf</u>

Irving, A. (2011) *A Research Framework for Post-Roman Ceramic Studies in Britain*. The Medieval Pottery Research Group Occasional Paper No. 6.

James, S. and Millet, M. (ed.s) (2001) *Britons and Romans: advancing an archaeological agenda*. CBA Research report 125. York: Council for British Archaeology.

Medieval Settlement Research Group (1996, revised 2007) *Medieval Rural Settlements Group Policy Statement*. <u>https://medieval-settlement.com/about/policy/</u>

Perrin, R. (2011) *A Research Strategy and Updated Agenda for the Study of Roman Pottery in Britain*. Study Group For Roman Pottery Occasional Paper No. 1.

Research Frameworks - Regional

Watt, S. (ed.) (2011) *The Archaeology of the West Midlands. A Framework for Research*. Oxford: Oxbow Books.

Digital

ADS (1) Data Management and sharing Plans http://archaeologydataservice.ac.uk/advice/DataManagementPlans ADS (2) Guides to good practice http://guides.archaeologydataservice.ac.uk/g2gp/Main

ADS (3) *Guidelines for Depositors* <u>http://archaeologydataservice.ac.uk/advice/guidelinesForDepositors</u>

ADS (4) Guidance for the selection of material for deposit and archive <u>http://archaeologydataservice.ac.uk/advice/selectionGuidance.xhtml</u>

Digital Curation Centre Data Management Planning resources: <u>http://www.dcc.ac.uk/resources/data-management-plans</u>

Forster, M. (2019) Work Digital / Think Archive. A Guide to managing Digital data generated from archaeological investigations. Dig Ventures

Historic England (2015) *Digital Image Capture and File Storage* <u>https://historicengland.org.uk/images-books/publications/digital-image-capture-and-file-storage/</u>

Historic England's *Archaeological Data Archiving Protocol (ADAPt) Data Management Toolkit*: <u>https://www.dropbox.com/sh/anwte6u1atifw24/AADrI8a II-GGQSYBUTz0Ecpa?dl=0</u>

Human Remains

Advisory Panel on the Archaeology of Burials in England [APABE], 2017 *Guidance for best practice for treatment of human remains excavated from Christian burial grounds in England* (2nd ed.) <u>http://www.archaeologyuk.org/apabe/pdf/APABE_ToHREfCBG_FINAL_WEB.pdf</u>

DCMS (2005) *Guidance for the care of Human Remains in Museums* <u>https://www.britishmuseum.org/pdf/DCMS%20Guide.pdf</u> [09.09.16]

Material Standards

ACBMG (2002) Ceramic Building Material Minimum Standards for Recovery, Curation, Analysis and Publication, Archaeological Ceramic Building Materials Group http://www.archaeologicalceramics.com/uploads/1/1/9/3/11935072/ceramic building material g uidelines.pdf

Barclay, A., Knight, D., Booth, P., Evans, J., Brown, D.H. and Wood, I. (2016) *A Standard for Pottery Studies in Archaeology* Prehistoric Ceramics Research Group, Study Group for Roman Pottery and Medieval Pottery Research Group <u>https://historicengland.org.uk/images-</u> <u>books/publications/standard-for-pottery-studies-in-archaeology/</u>

Historic England Guidelines

Historic England (1998) *Dendrochronology: Guidelines on producing and interpreting dendrochronological dates* Swindon: Historic England <u>https://historicengland.org.uk/imagesbooks/publications/dendrochronology-guidelines/</u>

Historic England (2004) *Human Bones from Archaeological Sites: Guidelines for producing assessment documents and analytical reports* <u>https://historicengland.org.uk/images-</u> <u>books/publications/human-bones-from-archaeological-sites/</u>

Historic England (2006) *Guidelines on the X-radiography of archaeological metalwork* Swindon: Historic England <u>https://historicengland.org.uk/images-books/publications/x-radiography-of-archaeological-metalwork/</u> Historic England (2006) *Science for Historic Industries: Guidelines for the investigation of 17th-to 19th-century industries* Swindon: Historic England <u>https://historicengland.org.uk/images-books/publications/science-for-historic-industries/</u>

Historic England (2008) *Guidelines for the Curation of Waterlogged Macroscopic Plant and Invertebrate Remains* Swindon: Historic England <u>https://historicengland.org.uk/images-books/publications/curation-of-waterlogged-macroscopic-plant-and-invertebrate-remains/</u>

Historic England (2008) *Investigative conservation: Guidelines on how the detailed examination of artefacts from archaeological sites can shed light on their manufacture and use* Swindon: Historic England <u>https://historicengland.org.uk/images-books/publications/investigative-conservation/</u>

Historic England (2010) *Waterlogged wood: Guidelines on the recording, sampling, conservation and curation of waterlogged wood* Swindon: Historic England https://historicengland.org.uk/images-books/publications/waterlogged-wood/

Historic England (2011) *Archaeological evidence for glassworking: Guidelines for Best Practice* Swindon: Historic England <u>https://historicengland.org.uk/images-</u> <u>books/publications/glassworkingguidelines/</u>

Historic England (2011) *Environmental archaeology: a guide to the theory and practice of methods, from sampling and recovery to post-excavation* (second edition) Swindon: Historic England https://historicengland.org.uk/images-books/publications/environmental-archaeology-2nd/

Historic England (2012) *Waterlogged organic artefacts: Guidelines on their Recovery, Analysis and Conservation* Swindon: Historic England <u>https://historicengland.org.uk/images-books/publications/waterlogged-organic-artefacts/</u>

Historic England (2014) Animal bones and archaeology: guidance for dealing with archaeological animal bones and teeth, from project planning through to post-excavation Swindon: Historic England https://historicengland.org.uk/images-books/publications/animal-bones-and-archaeology/

Historic England (2015) *Archaeological and Historic Pottery Production Sites: Guidelines for Best Practice* Swindon: Historic England <u>https://historicengland.org.uk/images-books/publications/archaeological-and-historic-pottery-production-sites/</u>

Historic England (2015) *Archaeometallurgy: Guidelines for Best Practice* Swindon: Historic England <u>https://historicengland.org.uk/images-books/publications/archaeometallurgy-guidelines-best-practice/</u>

Historic England (2015) *Geoarchaeology: Using earth sciences to understand the archaeological record* Swindon: Historic England <u>https://historicengland.org.uk/images-</u>books/publications/geoarchaeology-earth-sciences-to-understand-archaeological-record/

Historic England (2017) *Organic residue analysis and Archaeology: guidance for good practice* Swindon: Historic England <u>https://historicengland.org.uk/images-books/publications/organic-residue-analysis-and-archaeology/</u>

Historic England (2017) *Organic residue analysis and Archaeology: supporting information* Swindon: Historic England <u>https://historicengland.org.uk/images-books/publications/organic-residue-analysis-and-archaeology/</u>

APPENDIX 3. Fields in The Archive Contents Spreadsheet

Accession no.	The Accession Number supplied by Birmingham Museum Trust.
Originator	The Depositor or contractor (body or individual who compiled the archive)
Unique Identifier (if used)	The depositor / contractor's own unique identifier (site code or project number) associated with the project (if used).
Object Status (BMT use only)	Leave blank- for use by BMT only.
Site/ Project Name	The name of the site.
Project Type	PICK LIST. The column is not fixed so text can be added if an appropriate term is not available (i.e. evaluation, field walking, excavation etc.).
Ward	The Ward in which the site/project is located.
Precise Location	Name of Street or other narrow location.
Year of Fieldwork/ Project From	The year the fieldwork/ project started.
Year of Fieldwork/ Project To	The year the fieldwork/ project ended (can be the same as above).
Box series no.	The box series number.
Archive Type	PICK LIST of 7 terms: Documentary, Bulk, Registered Find, Human Remains, Scientific Samples, Digital and Discarded.
Material	PICK LIST of 70 terms. The column is not fixed so text can be added if an appropriate term is not available. Use the Registered find's material in this column i.e. 'metal- iron'.
Context	The context number
Quantity	The number of items that make up the 'object' on the spreadsheet i.e. the number of sherds of pottery in a bag or context sheets in a folder (numerical only).
Weight	The weight of the bulk material or individual object in grams
Unit of weight	Always grammes
Date	Use only if specific date is known, i.e. for coins.
Period	PICK LIST of ten terms - column is not fixed so can be amended as appropriate.
Registered Finds no.	Please use this column for Registered Finds (or small/ special finds) references and all human remains references such as skeleton (SK) or burial (B) where applicable.
R.F. Length	The length of the Registered Find
R.F width	The width of the Registered Find
R.F. Depth	The depth of the registered Find
Unit of Length	Always mm (insert 'mm')
R.F. object name	PICK LIST of terms to describe the Registered Find or object i.e. brooch, arrowhead, gaming counter, token whetstone etc. Column is not fixed so can be amended as necessary.
X-ray	Indicate 'yes' only if the object/ R.F. has been x-rayed
Enviro. Sample no.	The number associated with the environmental or scientific sample.
Comments	Any further comments regarding the 'object' in question such as rarity, treasure reference if applicable, condition, etc.

APPENDIX 4. The Material Archive, Recommended Terms

The following material groups and categories are recommended when labeling Archive boxes, bags and containers. The Material Group can be used on its own, or in combination with a Type, or the Type can be used on its own.

Material Groups and Types

- Animal Bone: Bone un-worked , including fish
- Building Materials: Baked and Fired clay, Brick, Tiles, Plaster, Concrete, Mortar, Opus Signinum, architectural materials, Unclassified
- Ceramics: Pipe clay, Pottery, Unclassified
- Environmental Samples: Processed flot residues, charcoal, plant remains, molluscs etc (no unprocessed bulk samples)
- Fibres
- Flint: including chert
- Glass: Vessel, Window, objects (i.e. beads), Other, Unclassified
- Human Remains
- Leather
- Metal: Copper and Alloys, Gold and Alloys, Iron and Alloys, Lead, Pewter, Silver and Alloys, (specify other identified metals), Tin, Unclassified
- Resin: Amber
- Shell
- Slag
- Stone: Flint, Jet, Shale, Slate (specify other identified stones), Unclassified
- Wood
- Worked Bone

Definitions of Material Categories

- Bone: includes antler, ivory (teeth)
- Baked Clay: i.e. sun dried, not fired, e.g. cob and daub
- Fired Clay: e.g. tile, including chimney pots and louvres; water pipes; kiln furniture (excepting saggars then used as pots, and parting sherds); terracotta
- Pipe Clay: clay tobacco pipes, figurines
- Pottery: includes kiln wasters and seconds, parting sherds, and pots initially used only as saggars; moulds used in the manufacture of pottery; pottery figurines, lamps and crucibles
- Copper and Alloys: includes brass, bronze, latten

Slag: includes clinker, hammer scale and other waste products from metal working and products from pyrotechnical products