

Questioned Documents Unit (QDU) Procedures for Preserving Charred Documents

1 Scope

These procedures will be used by a forensic document examiner for the preservation of charred documents to facilitate subsequent examinations.

2 Equipment/Materials/Reagents

- Fostec 150 watt tungsten halogen light, or comparable equipment
- Hand magnifier (minimum magnification, 4X)
- Leica stereomicroscope (minimum magnification, 6.3X), or comparable equipment
- Foster and Freeman Video Spectral Comparator (VSC), or comparable equipment
- ChemImage Hyperspectral Imager (HSI) Examiner 200 QD, or comparable equipment
- Humidity chamber
- Atomizer
- Deionized or distilled water
- Non-woven polyester sheets
- Blotter sheets large enough to cover the entire document
- Chamber vacuum sealer
- Commercial heat sealable vacuum bags
- Rigid clear polyethylene film
- Picks (e.g., dental) and tweezers and/or tongs
- Bone folder

3 Standards and Controls

Not Applicable.

4 Sampling

Not Applicable.

5 Procedures

5.1 Visually examine the item(s) using lighting and magnification sufficient to allow fine detail to be distinguished to determine the extent of the charring and whether the items are curled and/or brittle.

5.2 **Redacted**

If submersion is necessary, contributor consent will be obtained as this technique may affect other forensic examinations.

5.2.1 **Redacted**

Stabilize one document at a time in the water.

5.2.2 If the document(s) has been submerged, dry between two non-woven polyester sheets and blotter paper. Apply an object heavy enough to flatten the document(s), such as a piece of plexiglass.

5.2.3 Once the document(s) is dry, encapsulation of the document(s) may be advisable. Encapsulate the item(s) using polyethylene film and/or heat sealable vacuum bags and the chamber vacuum sealer in accordance with the instructional CD, *Preservation of Charred Documents Using a Vacuum Sealer*.

5.3 If the document(s) is brittle **Redacted**, support the charred debris between two pieces of rigid polyethylene film. Place the document(s) into a heat sealable vacuum bag. Place the bag inside the chamber vacuum sealer and seal in accordance with the instructional CD, *Preservation of Charred Documents Using a Vacuum Sealer*.

5.3.1 In lieu of vacuum sealing, glass slides may be used to encapsulate small pieces of charred debris **Redacted**

5.4 For multi-page documents, attempt to separate the pages using appropriate equipment such as picks, tweezers, and/or tongs.

5.5 Record images of the evidence using a camera, computer scanner, or photocopier with appropriate filters and light sources such as ultra violet or infra-red when necessary. The VSC (for performance and verification frequency, refer to the VSC Performance and Maintenance logbook nearest the instruments), HSI (for performance and verification frequency, refer to the HSI Examiner 200QD Performance and Maintenance logbook nearest the instrument), or comparable equipment may be utilized to recover information.

5.6 The case records will include any printouts, photographs or drawings of the items, pertinent observations, and/or characteristics observed during the preservation/examination process that support the findings or conclusions.

5.7 Conduct the examinations **Redacted**
by the contributor, as well as any others that may be probative. Refer to the appropriate QDU procedures for the examination(s) being conducted.

5.8 The examiner will communicate the preservation results and method of preservation under the “Results of Examinations” heading of the *FBI Laboratory Report (7-1 or 7-1 LIMS)* which will be reviewed according to the *QDU Case Records and Review for Legacy Cases* or *QDU Case Records and Review for Forensic Advantage (FA)* procedures.

Examples of possible statements of results and methods of preservation are as follows:

- The Item 1 charred document was preserved for examination using vacuum sealing techniques.
- Attempts were made to preserve the charred pages of Item 1 using various encapsulation techniques, but were met with limited success due to the size and brittle condition of the item.

6 Calculations

Not Applicable.

7 Measurement Uncertainty

Not Applicable.

8 Limitations

The following factors could affect the preservation process, results rendered, and may also inhibit further examinations:

- Poor condition of the items. **Redacted**
- Excessive discoloration.
- Destruction of physical characteristics due to excessive heat.

9 Safety

Standard precautions should be followed for the handling of chemical and biological materials. Examiners/analysts may refer to the *FBI Laboratory Safety Manual* for additional guidance.

Chemical and biological materials that are hazardous or potentially hazardous will be maintained and examined in specifically designated areas within the QDU space.

10 References

FBI Laboratory Safety Manual

Doud, Donald, "Charred Documents, Their Handling and Decipherment: A Summary of Available Methods for Treating Burnt Papers," *Journal of Police Science*, 43 (1952-53) pp.812-826.

Klinger, Jane E., Chief Conservator, Conservation Management Collections, United States Holocaust Memorial Museum.

Mokrzycki, Gregg M., *Preservation of Charred Documents Using a Vacuum Sealer*, Presented at Mid-Atlantic Association of Forensic Sciences Meeting, 2001.

Rev. #	Issue Date	History
4	03/03/15	Updated Header to read “QDU Standard Operating Procedures Manual”. Section 2 changed “equivalent” to “comparable equipment” and “instrumentation” to “equipment”. Added fifth bullet. Deleted Section 4 “Calibration” and renumbered accordingly. Section 5.1 changed “they” to “the items”. Added Section 5.3.1. Section 5.5 added “images of” and “, HSI, or comparable equipment,”. Section 7 changed “Uncertainty of Measurement” to “Measurement Uncertainty”. Reformatted bullets throughout document where necessary.
5	03/01/18	2 Equipment/Materials/Reagents, fifth bullet, changed 100 to “200” for HSI 5.5 added, (for performance and verification frequency, refer to the VSC Performance and Maintenance logbook nearest the instruments)” “(for performance and verification frequency, refer to the HSI Examiner 200QD Performance and Maintenance logbook nearest the instrument)”
6	07/01/20	Added Section 5.8.

Approval

Redacted - Signatures on File

Questioned Documents
Unit Chief

Date: 07/01/2020

Questioned Documents
Technical Leader

Date: 07/01/2020