

## **Questioned Documents Unit (QDU) Procedures for Age Determination of Documents**

### **1 Scope**

These procedures will be used by a forensic document examiner to conduct examinations to determine the approximate age of a document(s) or the approximate age of the entries contained on a specific document(s).

### **2 Equipment/Materials/Reagents**

- Fostec 150 watt tungsten halogen light, or comparable equipment
- Laboratory Supplies Co., Inc. 30 watt transmitted light box, 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
- Reference materials
- Flatbed scanner or equivalent

### **3 Standards and Controls**

Not Applicable.

### **4 Sampling**

Not Applicable.

### **5 Procedure**

**5.1** Visually examine the document and/or its entries using lighting and magnification sufficient to allow fine detail to be distinguished for any physical characteristics that may assist in the determination of a manufacturing date.

**5.2** Using transmitted light, analyze the document for watermarks. If no watermark is present, record the results in the case records. If a watermark is present refer to the *QDU Procedures for Conducting a Watermark Search*.

**5.3** Using magnification and lighting, determine whether or not impressions are present on the document. If impressions are observed, refer to the *QDU Procedures for Conducting Checkwriter Examinations*, *QDU Procedures for Conducting Stamped Impressions/Dry Seal Examinations*, or *QDU Procedures for Conducting Typewriting Examinations*, as necessary.

**5.3.1** If the impressions are typewritten, evaluate the typewritten impressions to establish the following parameters:

- Technology of typewriting (e.g., type bar, printwheel, single element).
- Style of type (e.g., Courier, Prestige).
- Ribbon/correction technology (e.g., type of ribbon, correction method, and/or opaquing fluid).

**5.3.2** To determine possible dating parameters and how they relate to the age/purported age of a document in question, review reference materials to establish introduction dates for the items listed in 5.3.1. Refer to the *QDU Procedures for Conducting an Office Equipment File (OEF) Search*.

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**5.5** Visually examine the document to determine if writing mediums were utilized. If writing inks, colored pencils, or other writing mediums (e.g., crayon, carbon, carbon paper) were used, refer to the *QDU Procedures for Conducting Writing Medium Examinations*. Use reference materials such as books, journals, and the internet to establish the introduction date of the particular writing medium(s) in question.

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**5.6** Visually examine the document to determine if any printing processes were utilized in the preparation of the document. If so, refer to the *QDU Procedures for Conducting Graphic Arts, Photocopier, and Printer Examinations*. Determine the specific printing process used and utilize reference materials such as books, journals, the internet, and the Office Equipment File to determine the introduction date of that particular printing technology. Refer to the *QDU Procedures for Conducting an Office Equipment File (OEF) Search*.

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**5.7** The case records will include any copies of reference material, image files, printouts, photographs, or drawings/images of identifying and/or eliminating characteristics observed during the examination process that support the findings or conclusions.

## **5.8 Conclusions**

- **Consistent with the purported date(s)** - This opinion is based on observations of physical/optical characteristics (e.g. optical brighteners, watermarks, printing process, typewriting) which earliest date(s) or date range of manufacture are consistent with or prior to the purported date of the document.
- **No Conclusion** – The examiner cannot determine whether the document is or is not consistent with the purported date of the document, or the earliest date(s) or date range of manufacture cannot be determined. This is due to limitations present, such as a lack of features which would assist in an age determination. This opinion requires an explanation of limiting factors.
- **Not consistent with the purported date(s)** - This opinion is based on observations of physical/optical characteristics which earliest date(s) or date range of manufacture are inconsistent with, or later than, the purported date of the document.

**5.8.1** If there is not a purported date for the item(s) in question, then a statement regarding the earliest date(s), and/or date range of manufacture will be reported, if applicable.

## **6 Calculations**

Not Applicable.

## **7 Measurement Uncertainty**

Not Applicable.

## **8 Limitations**

The following factors could affect the examination process and/or the results rendered:

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- Lack of a sufficient quantity of questioned and/or known items.
- The completeness of information contained in the reference materials such as books, journals, the internet, and the Watermark and Office Equipment Files.
- Lack of features in the item(s) that would assist in age determination.

## **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*

*QDU Standard Operating Procedures Manual*

*QDU Quality Assurance Manual*

Conway, James V.P., *Evidential Documents*, Charles C. Thomas, Publisher, Springfield, IL. 1959.

Gesell, Harold J. E., The Determination of Age of Documents, Conference of the Post Office Department Questioned Document Examiners, Washington, D.C., June 22, 1944. (QDRAC 2836)

Hilton, Ordway, *Scientific Examination of Questioned Documents Revised Edition*, Elsevier Science Publishing Co., New York, NY. 1982.

Kelly, Jan Seaman; Lindblom, Brian S., *Scientific Examination of Questioned Documents, Second Edition*, Taylor & Francis Group, Boca Raton, FL., 2006

Moore, Winsor C., Age Determination of a Document, NSBJ, pp. 118-126. (QDRAC 1531)

Rev. #	Issue Date	History
5	03/01/18	Deleted ChemImage Hyperspectral Imager (HSI) Examiner 100 or comparable equipment and added Flatbed scanner or equivalent under Section 2 “Equipment/Materials/Reagents.” Added grammatical changes throughout the document. Section 5.8 Conclusions added “due to limitations” for the No determination bullet. 10 References added “Kelly, Jan Seaman; et. al <i>Scientific Examination of Questioned Documents, Second Edition</i> as a new reference.
6	09/26/19	Section 5.3.1 bulleted section, deleted “etc.”, added “e.g.” Section 5.7, added “image files” and “/images”. Section 5.8, third bullet, added “and may contain other observations.”
7	07/01/20	Section 5.6.1 changed “color toner code” to “CPS code” and removed “an ink” from 3 <sup>rd</sup> line. Updated Section 5.8 conclusions to include “Consistent with the purported date(s)” “No conclusion” and “Not consistent with the purported date(s)”. Expanded definitions of conclusions for increased detail and clarity, and added Section 5.8.1.

**Redacted - Signatures on File**

**Approval**

Questioned Documents  
Unit Chief

Date: 07/01/2020

Questioned Documents  
Technical Leader

Date: 07/01/2020