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FORENSIC  
DOCUMENT  
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The scientific  
examination of  
documents and  
handwriting.

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# How to Preserve Audit Evidence:

## The Collection, Packaging and Preservation of Questioned Document Evidence

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Sydney • Canberra • Hong Kong • Singapore

# Your Aim:

to recognise the evidential potential of documents  
in an audit;

to handle and package those documents in a  
manner so as to preserve and maximise that  
evidential potential; and

to provide appropriate specimens for forensic  
comparison.

# Remember:

- The inherent detail in a document can provide volumes of useful information.
- Document examinations are complex and documents are susceptible to damage and deterioration.
- Not too late to preserve evidence if the document has already been “mishandled”.
- Assume that every document is loaded with evidential information – both visible and latent.

# Collecting and Handling

- Keep direct handling to an absolute minimum.
- Bear in mind the possibility of fingerprint examination.
- When handling, use nitrile or non-latex surgical gloves; be careful when using cotton gloves and avoid it if possible.
- Avoid using tweezers, binder clips and other such devices.



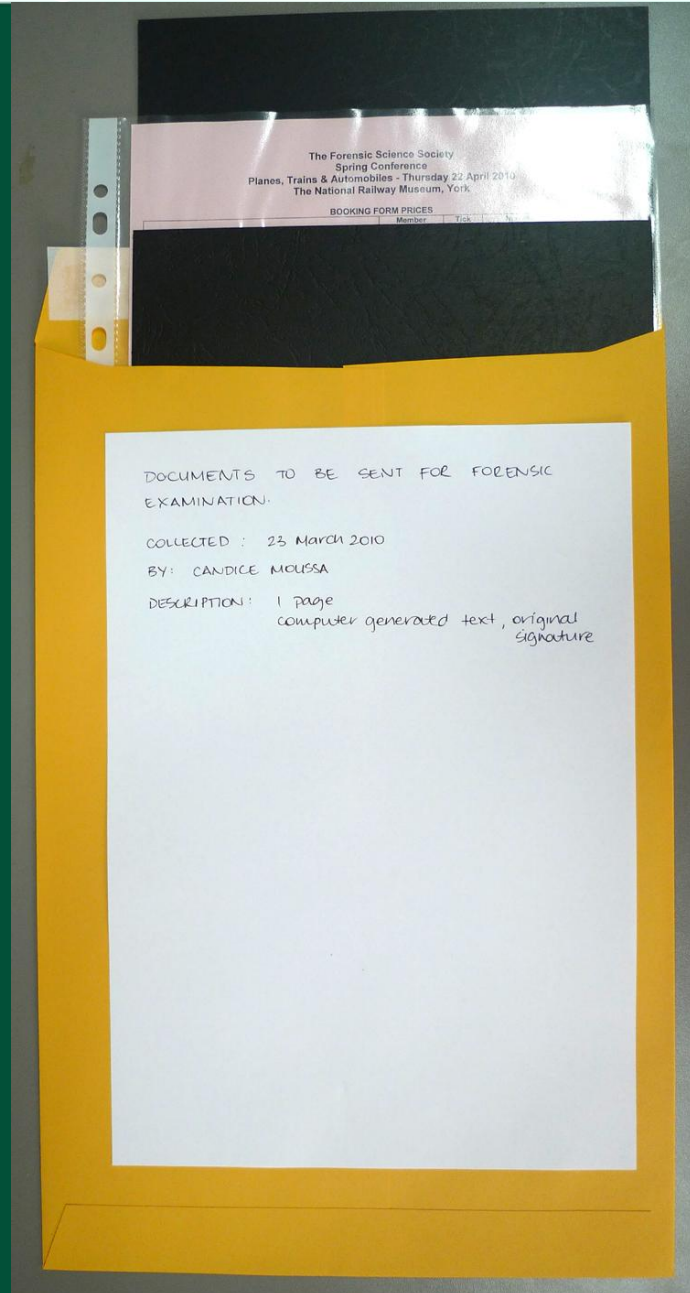
# Collecting and Handling

- Avoid shuffling the documents.
- Use appropriately sized envelopes.
- Continuity forms, detailed document descriptions and cautions on the envelopes.
- Identify the individual documents, especially if they are photocopies. How?



# Packaging

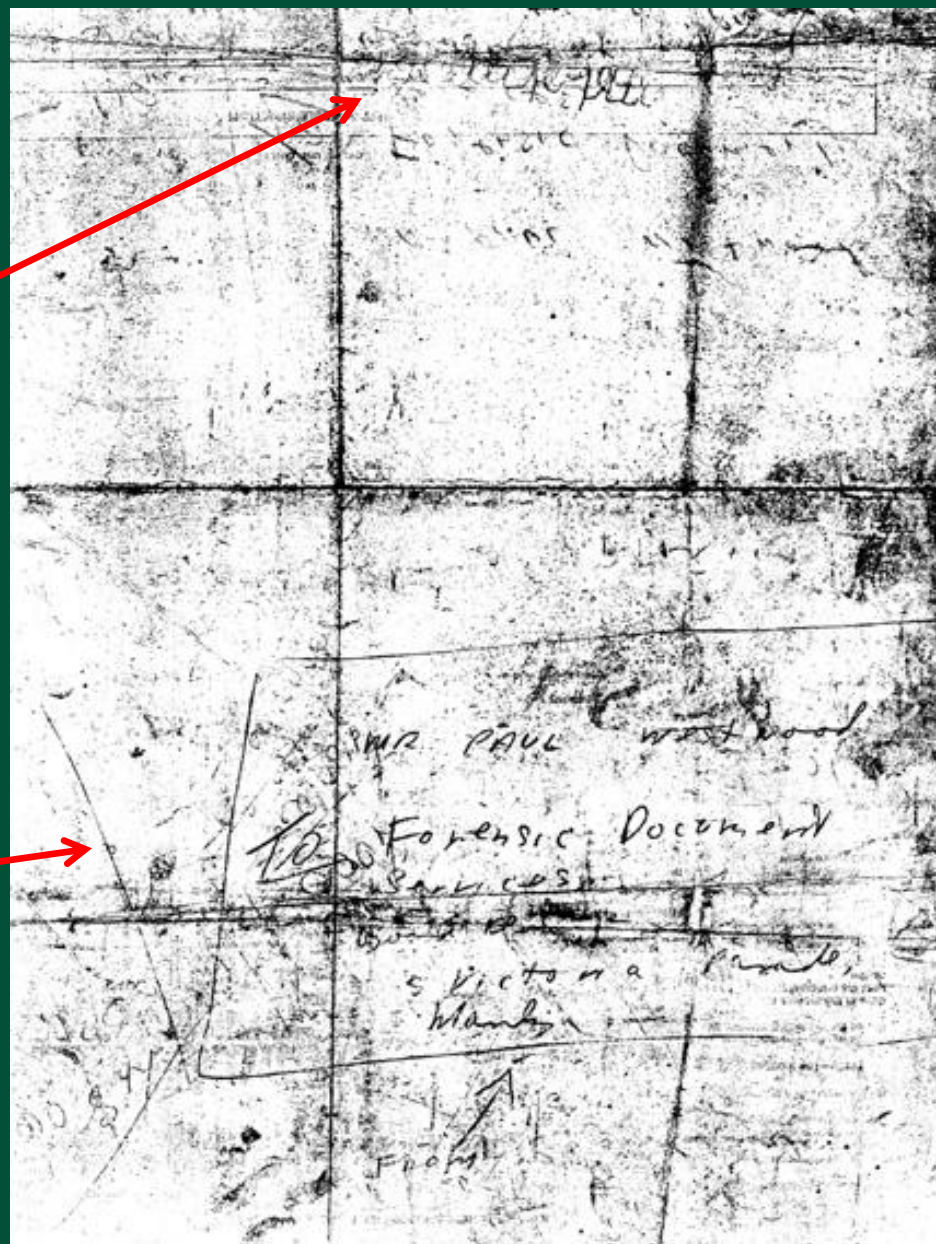
- Place documents which are to be repeatedly referred to inside a (copy safe) plastic sleeve.
- Documents can be protected using two sheets of cardboard to prevent bending and further impressions.
- Insert document in envelope after the envelope has been labelled.



# Introduction of unrelated latent writing impressions:

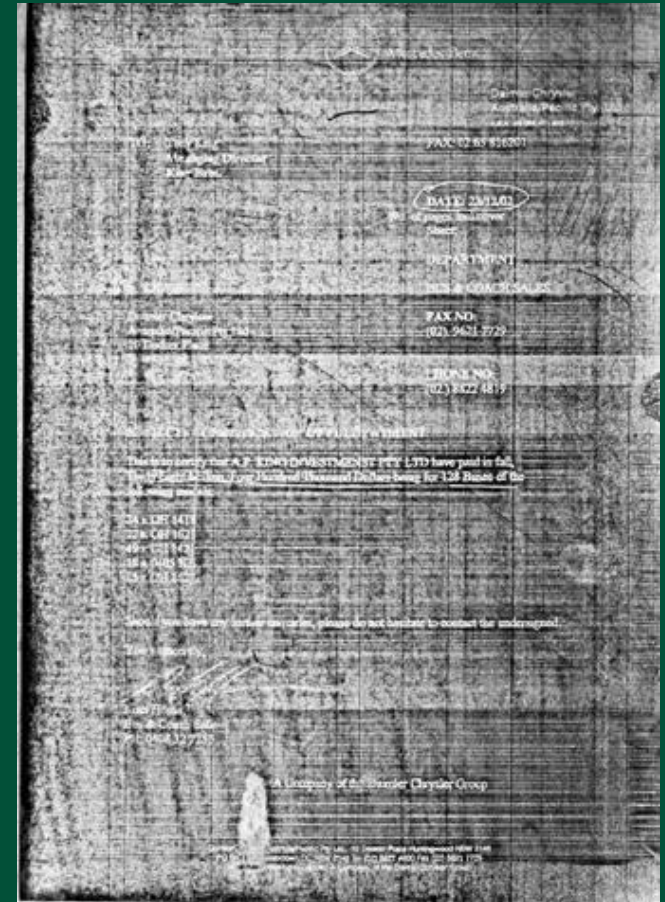
signature from the  
letter of instructions;  
and

the address of our  
laboratory on the  
courier envelope.



# Roller Marks

## Developed by ESDA



Never fax original documents  
nor feed them through the  
automatic feeder on a  
photocopier or scanner.

# Packaging

- Seal the envelope – handle only when necessary and with care.
- Insert envelope inside another (larger) envelope.
- Emphasis: please do not add folds or staples to potentially questioned documents – if you do, keep a detailed record of what you introduce to the document.
- Finally, store in a secure area away from extreme heat and direct sunlight.

# Research

## INK LINES EXPOSED TO SUNLIGHT



Figure 1: Effect of exposure to window filtered sunlight on various inks for periods of 0, 1, 3, 5 and 7 weeks.

## PAD PAPER EXPOSED TO SUNLIGHT



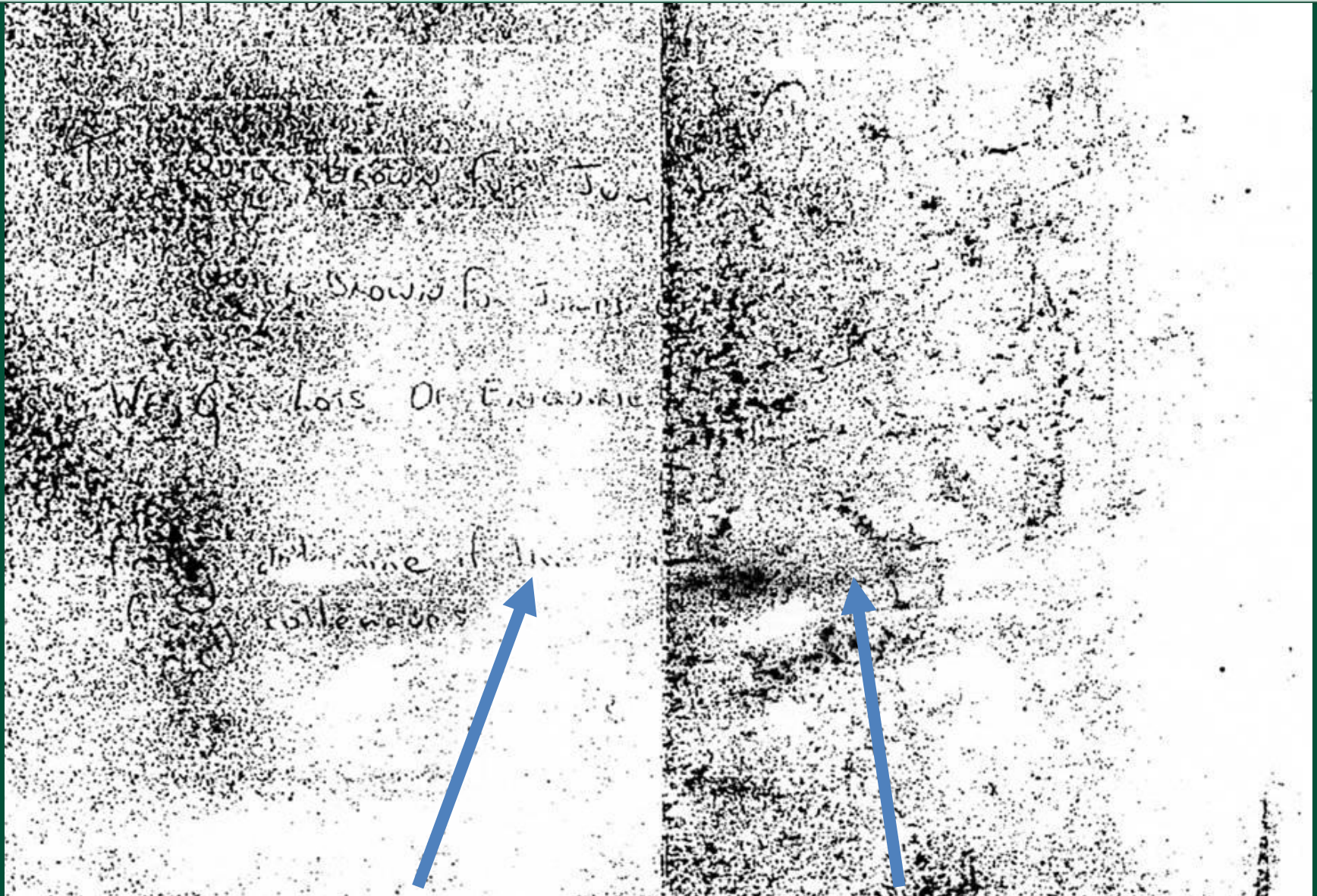
# Documents from a File

- If the document forms part of a file, retrieve the entire file or at least 10 pages above and below the subject document.
- The evidence regarding the questioned document may not lie in the document itself, but rather in one of the other documents in the file.
- The observations made regarding the questioned document may only be significant in the context of the documents in the file.
- The physical condition of the questioned document compared to the rest of the file may be relevant.

# Preserving Document Evidence

- Retain a photocopy of the front and back of all the documents for your reference.
- Storing the document correctly prevents the addition of unrelated physical materials.
- Bear in mind the possibility of fingerprint examination.
- If both fingerprint and document examinations are required – please send for document examination first.

# ESDA / NINHYDRIN



Before Ninhydrin

After Ninhydrin

# Complications arise with...

- charred documents;
- water saturated documents; and
- shredded and torn documents.

Photography of these documents prior to disruption or collection is very important.

Minimise disturbance when collecting and transporting.

# Typical Situations Giving Rise to the Examination of Burnt and Water Damaged Documents

- Fires
- Bombings
- Incinerators
- Transportation incidents
- Burnt or charred bodies
- Floods/Storms



# The Nature of the Damage



- Pages stuck together.

- Complete or partial obliteration of document.
- Growth of micro-organisms.

# Collection and Transportation of Burnt Documents

- Do not mix or disturb the charred or burnt paper.
- Handle with care: gentle use of flat tweezers and spatulas, slide a sheet of paper under the fragment to be collected and then support it on a sheet of cardboard.
- Avoid strong drafts.
- Use rigid boxes lined with cotton wool.
- Cotton wool covered with tissue paper may be used to separate different layers of documents.



# Collection and Transportation of Water Damaged Documents

- Do not attempt to separate or force dry the documents.
- If the documents are immersed in water (or some other liquid) keep them in the water/liquid in a container to send to the laboratory.

# Collection and Transportation of Shredded or Torn Documents

- Do not attempt to reconstruct the documents, certainly not using tape, staples, folding etc.
- With torn documents, keep the pieces of paper separate – avoid damage or disruption to the fragile irregular torn edges of the paper.
- With shredded documents, do not intermingled the paper debris – place the undisturbed paper in a sturdy bag which is sealed and reinforced with tape so that the bag retains its shape and movement and mixing of the paper debris is minimised.



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# Collection of Specimens for Forensic Comparison

# Collection of Handwriting Specimens

- Questioned and known specimens must be comparable. A's cannot be compared with G's, nor D's with d's. The same letters/numerals/symbols/punctuation must be in both the questioned and specimen writing, and they must be in the same style (UPPER CASE, lower case, *cursive*).
- There are two types of handwriting and signature specimens: *request specimens* and *course of business (or historical) specimens*.
- Usually, signatures are compared with signatures, and handwriting is compared with handwriting.

# Collection of Handwriting and Signature Specimens

- Request specimens and course of business/historical specimens compliment one another.
- Request specimens are useful for obtaining the same wording or spacing of the questioned handwriting/signature (for example a cheque or application form).
- Course of business/historical specimens are useful for obtaining examples of more “natural” and representative specimens, including contemporaneous specimens.

# Collection of Request Handwriting Specimens

- Request specimen handwritings: same style of writing;  
same writing instrument;  
ballpoint pen; and  
same paper/layout.
- Dictate the passage to be written at reasonable speed.
- Obtain several pages of request writing.

# Collection of Handwriting Specimens Request

## - The London Business Letter

Our London business is good, but Vienna and Berlin are quiet. Mr D. Lloyd has gone to Switzerland and I hope for good news. He will be there for a week at 1496 Zermatt Street and then goes to Turin and Rome and will join Col. Parry and arrive at Athens, Greece, Nov 27<sup>th</sup> or Dec 2<sup>nd</sup>. Letters there should be addressed: King James Blvd. 3580. We expect Chas E. Fuller, Tuesday. Dr L. McQuaid and Robert Unger, Esq., left on the "YX" Express tonight.

# Collection of Course of Business Handwriting Specimens

- Course of business/historical specimen handwritings: can be obtained from business papers, letters, cheques, applications, employee files, diaries, address books, notepads.
- As with request writings, the course of business specimen writings must include the relevant letters/numerals/symbols and the same style of writing (UPPER CASE, lower case, cursive).
- Obtain at least several examples of request writing – the more, the better.

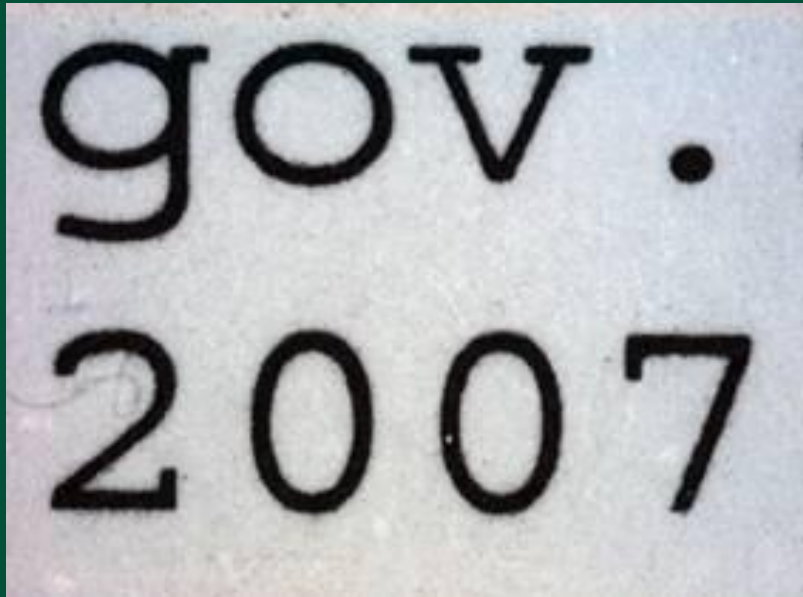
# Collection of Signature Specimens

- Request specimen signatures: one signature per sheet of A4 paper (on bond/blank paper *and* on pages with ruled lines *and* using a ballpoint pen).
- In the order of 20 to 30 specimens is usually adequate if they include original examples and cover the purported date(s) of the questioned signature(s).
- Course of business specimen signatures: written over a period of time which *encompasses* the period when the questioned signature purports to have been written.

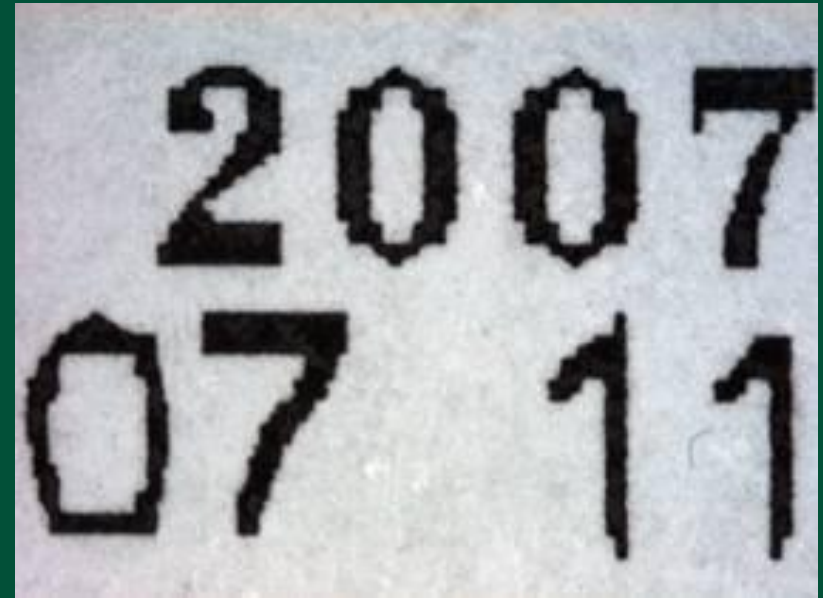
*Most Importantly:*

Where possible, provide the original document...

# The effect of copying on print quality



First generation print



1<sup>st</sup> and 2<sup>nd</sup> generation  
facsimile copies

# Collection of Photocopier, Printer and Facsimile Specimens

Printer specimens are obtained to compare:

the quality of the print;

the microscopic appearance of the surface of the print; and

any printer defects.

Defects can provide important identifying and dating information about a document.

# Obtaining Specimens

- Ideally, specimen documents should be a combination of:
  - (a) documents prepared by the investigator for the purposes of comparison with the questioned document (and labelled according to the nature of the sample, note the make, model and serial number of the machine, obtain the service history); and
  - (b) documents prepared on the suspect machine in the normal course of business at about the time the questioned document was produced *and* at about the time it is suspected the questioned document was produced.
- If possible, retrieve the machine for examination.

# “Request” Photocopier Specimens

- 10 copies on A3 paper, lid down, without paper on the glass.
- 10 copies on A3 paper, lid down, with A3 paper on the glass. Submit the “copied” document with the samples.
- 4 copies produced on A3 paper with the lid up and no paper on the glass.
- Repeat step two using (a) the side paper feed tray(s), and (b) the document feeder on the lid of the photocopier.
- Note the location of any trash marks on the glass and the inside lid.

# “Request” Printer Specimens

- 10 original print outs with minimal wording (eg just one letter or a numeral), 10 original print outs of varying text, and 10 original print outs of an entirely black page.
- If the questioned document bears colour images, print similar style images using the same colours as those on the questioned document.
- Note the supplier, make and model of toner and ink cartridges used and any information about non-standard re-fills.
- Repeat step 1 using the external tray feed rather than the internal tray feed.

# “Request” Facsimile Specimens

- Produce (a) a test document of minimal wording and (b) an entirely black test document on a laser printer.
- Copy each test document at least 5 times on the suspect machine (using the “copy function”).
- Send each test document by facsimile (at least 5 times) from the suspect machine to another fax machine.
- Send each test document by facsimile (at least 5 times) to the suspect machine from another fax machine.
- Note the supplier, make and model of toner and ink cartridges used and any information about non-standard re-fills.

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