

CHAPTER



DOCUMENTATION OF FRICTION RIDGE IMPRESSIONS: FROM THE SCENE TO THE CONCLUSION

ALICE V. MACEO

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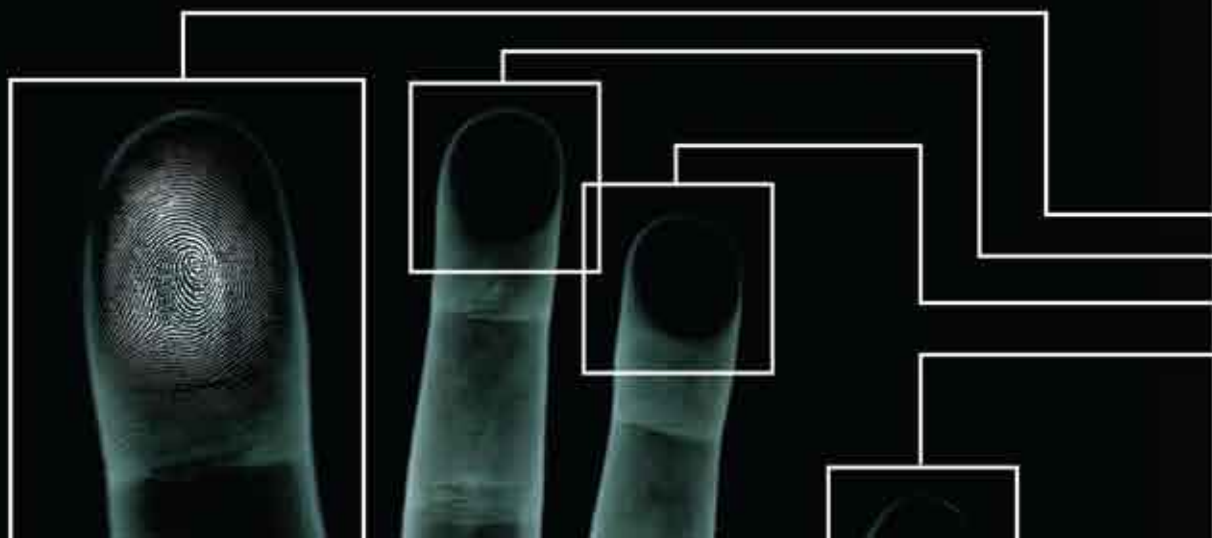
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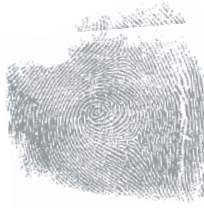
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CHAPTER 10

DOCUMENTATION OF FRICTION RIDGE IMPRESSIONS: FROM THE SCENE TO THE CONCLUSION

ALICE V. MACEO

10.1 Introduction

The goal of documentation, regardless of the jurisdiction or even the subject matter, is to provide transparency of information. Activities, data, methods, standards, and results are documented to provide the collector of the information with a detailed history that does not rely on memory and allows another person to review the information.

10.1.1 Analytical and Experimental Laboratories

In science, documentation is crucial to evaluate results and to test the validity of experimental research. Laboratories operate in two realms: (1) using established methods under standard operating procedures to answer routine questions or (2) using experimentation to develop new methods to answer novel questions. An example of the former laboratory would be an analytical laboratory that routinely tests water samples for the concentration of dissolved oxygen. This laboratory uses established methods and procedures for each sample and reports the results. An example of the latter type of laboratory would be a research laboratory that develops a new, more efficient method for testing the concentration of dissolved oxygen. This new method, once validated, may be implemented by the analytical laboratory.

Depending on the type of laboratory, analytical or research, the level of documentation will vary. Analytical laboratories typically have a reference collection of methods and procedures. Documentation of analysis centers around the activities and data associated with each sample: origin of the sample, preservation of the sample, chain of custody of the sample, controls, and results of analysis.

Research laboratories, however, must document the basis and the development of the method. This level of documentation will include how the method was derived,

the theoretical hypothesis predicting the feasibility of the method, the data used to test the method, the results of testing, and the evaluation of the theoretical hypothesis with the results of testing. If the results of rigorous testing support the theoretical hypothesis, a new method has emerged. The method must be published and validated before an analytical laboratory will adopt it.

10.1.2 Forensic Laboratories

Most of forensic science operates in the analytical realm. Established methods and procedures are detailed in technical or operational manuals. Analysts are responsible for documenting the activities, methods, and results of their examinations in the case record. Because anything can potentially become evidence, forensic science must occasionally enter the realm of research to test novel procedures. Experimentation must follow accepted scientific research practices and demonstrate reliability prior to implementation.

The examination of friction ridge impressions follows the ACE-V model—analysis, comparison, evaluation, and verification—and falls into the analytical category. Latent prints are examined following an established method outlined in the technical or operational manuals for the laboratory. The activities and data are documented in the case record. Unlike other analytical processes, the examination of friction ridge impressions is nondestructive and the samples (latent prints and exemplars) are not consumed. The original samples can be maintained in the case record, permitting re-examination. If the original samples cannot be retained, examination-quality reproductions or legible copies of the samples can be maintained.

Development, recovery, and examination of friction ridge impressions must follow the accepted methods in the technical and operational manuals of the laboratory. Documentation must permit transparency of all activities and data generated, must support the reported conclusions, and must contain sufficient detail, “such that, in the absence of the examiner(s), another competent examiner or supervisor could evaluate what was done and interpret the data” (ASCLD/LAB, 2005, p 32).

10.1.3 Tiers of Documentation

Law enforcement agencies have adopted many administrative protocols for the recovery and examination of friction ridge impressions. In some agencies, one person responds

to the crime scene, processes all the evidence for patent and latent impressions, and examines the prints. In other agencies, one person responds to the scene and collects items of evidence, another person processes the evidence for latent prints, a third person photographs the latent prints, and a final person examines the latent prints.

For ease of explanation, documentation will be approached from three different starting points. These starting points will be referred to in a manner that generally reflects when the latent print examiner (LPE) enters the chain of custody: *primary custody*, *secondary custody*, and *tertiary custody*.

Primary Custody. Primary custody refers to the situation in which an LPE maintains custody of the latent print evidence from its discovery through its examination. In this situation, the LPE responds to a crime scene, recovers latent prints from the scene, and transports items of evidence back to the laboratory for latent print development and recovery. The LPE is the first link in the chain of custody for all latent prints generated in the case.

Secondary Custody. Secondary custody refers to the situation in which an LPE receives items of evidence secured by other personnel, such as a crime scene analyst (CSA), who responded to the crime scene. The LPE develops and recovers latent prints from evidence collected and secured by someone else. The LPE starts the chain of custody for the recovered latent prints but does not start the chain of custody for the item of evidence.

Tertiary Custody. Tertiary custody refers to the situation in which an LPE receives latent prints recovered by other personnel. For instance, a CSA develops and recovers all of the latent prints associated with a case and submits the photographs and lifts to an LPE for examination. The LPE does not start the chain of custody for the latent prints and typically does not see the original surfaces from which the latent prints were recovered.

10.1.4 Case-Wide Documentation

Case-wide documentation of friction ridge impressions, regardless of when the LPE enters the chain of custody, must include the significant information and activities related to the impressions. Case-wide documentation should include:

- Information linking the latent prints to the appropriate surface or item of evidence related to the crime scene.



- Condition of the item or surface processed for latent prints (e.g., the ledge was dusty, the tire iron was rusty).
- Development and recovery techniques used to visualize the latent prints.
- Quality controls used during development of the latent prints.
- Chain of custody for the items of evidence.
- Chain of custody for the latent prints.
- Information referencing the exemplars used for comparison.
- Automated Fingerprint Identification System (AFIS) database searches.
- Conclusions of the examination of each latent print.
- Verified conclusions.
- Disposition of evidence (items of evidence and latent prints).

If more than one person is involved in the recovery and examination of the latent prints (e.g., a CSA and an LPE), their combined documentation should detail the history of the latent print from its discovery to the conclusions rendered from the examination.

Different agencies have different criteria for documentation. For instance, some agencies require that examination-quality photographs be taken of all latent prints developed with powders prior to lifting, whereas others do not. Even within an agency, the standard may vary with the circumstances, for instance, with the type of crime. Additionally, the manner in which the documentation resides in the case record varies among agencies. Some agencies use the original lift cards or photographs as part of the case record and place all of the documentation related to the latent prints on the lift cards or photographs. Some agencies use worksheets or forms and may only retain legible copies of the latent prints and known prints in the case record because the original lift cards and photographs must be returned to a submitting agency.

The purpose of this chapter is not to address every possible agency-based documentation criterion and case record requirement. Appropriate documentation for the

primary, secondary, and tertiary custody scenarios will be addressed from the perspective of the LPE. The goal is to give generalized information with examples.

The documentation for the three custody scenarios will overlap in some areas. Special considerations and generalities will be noted, and sometimes the reader will be directed to a previous section containing the information.

10.2 Primary Custody Documentation

10.2.1 General Crime Scene Documentation

Documentation of friction ridge impressions begins at the crime scene. General crime scene documentation is accomplished through a combination of photographs, sketches, and notes. The case notes typically begin with:

- The case number.
- The crime scene address.
- The name of the victim.
- The dates and times the LPE arrived at and departed from the scene.
- The name of the LPE.

The LPE should document pertinent information regarding the crime from the first responder. This initial information will guide the LPE to areas or items at the scene that may have latent print evidence. Each page of the crime scene notes should contain the case number, page number, total number of pages (e.g., 2/3 or 2 of 3), and the initials of the LPE.

10.2.2 Collecting Items of Evidence

Documentation should indicate where items of evidence were located in the scene and the condition of the evidence prior to collection. For example, if the victim was assaulted with a knife and a bloody knife (potentially holding latent prints) was found in a hallway, the knife should be documented in its original location, orientation, and condition. Documentation may include sketches, measurements, and photographs of the knife, showing the general location (Figure 10–1), orientation (Figure 10–2), and condition (Figure 10–3). It is recommended that an

FIGURE 10–1

Photograph documenting the general location of evidence.

**FIGURE 10–2**

Photograph documenting the orientation of evidence.



evidence marker be included with the case number and item number in the orientation and condition photographs. After documentation, the item can be recovered and preserved for additional analysis in the laboratory.

Items recovered from the scene can be placed in a temporary storage container for transport. The temporary storage container should have a label, either on the container or inside the container, that contains the case number, item number, and date and time of recovery. The LPE should have some method for ensuring that all evidence taken from the scene is protected from loss or deterioration. Packaging, sealing, and labeling typically occur after the evidence has been examined by the LPE at the laboratory or before it is submitted to other personnel (e.g., an evidence control section for entry into an electronic evidence tracking system).

10.2.3 Latent Print Development and Recovery on Scene

Latent prints that are of sufficient value for recovery must be documented. When processing a crime scene or an item of evidence, it may be difficult to determine whether the latent print contains sufficient quality and quantity of detail (i.e., of value) for comparison. The LPE generally cannot perform a critical analysis until the photographs and lifts are examined in the proper setting at the laboratory. Latent prints that are of sufficient value may later be deemed insufficient for comparison. This is to be expected in a conservative approach that ensures all possible evidence is preserved.

10.2.3.1 Documenting the Surface Prior to Processing.

If not already annotated in the general crime scene documentation (photos, sketches, or notes), the LPE should document the areas of the scene to be processed for latent

**FIGURE 10–3**

Photograph documenting the condition of evidence.

**FIGURE 10–4**

Photograph documenting the exterior of a patio door.

prints prior to applying latent print development techniques. For example, if a patio door was the point of entry, its original orientation and condition (e.g., opened, closed, damaged, dusty) should be documented. Figure 10–4 demonstrates photo documentation of the exterior of a patio door.

10.2.3.2 Designating and Labeling Latent Prints on the Surface. There are many administrative ways to designate latent prints on a surface or item. The key is to make sure that the LPE can reconstruct the location and orientation of the latent prints recovered. In addition to referencing the surface or item from which the latent print was recovered, the location and orientation of a latent print may provide the following valuable information:

- (1) The manner in which a surface or item was touched.
- (2) An explanation for any distortion in the latent print.
- (3) The anatomical source of the latent print (e.g., which area of the hand touched the surface).

One method of designation is to choose a sequential numbering or lettering system (e.g., L1, L2, L3, etc.). The notes, sketches, photographs, and lifts reference each latent print by its designator. Often, there are multiple latent prints in a small area that are photographed or lifted together. In these instances, the designator may actually refer to two or more latent prints.

Depending on agency policy, if there is more than one suitable latent print on a lift or photograph, each suitable latent print may be attributed a subdesignator. For example, if L2 has three impressions, they may be designated A, B, and C. L2A would reference print A on photograph (or lift) L2.

The LPE may choose to label the latent prints on the surface as part of the photographic documentation. Labeling latent prints can be accomplished two ways: marking directly on the surface or using a label. The nature of the surface or agency policy may dictate how latent prints are labeled.

FIGURE 10-5*Location of patent print L1.*

10.2.3.3 Patent Prints. The LPE should first examine surfaces at the scene for visible impressions (patent prints). The surfaces that were examined and the results of the examination should be documented. Returning to the patio door in Figure 10-4, if there were no impressions of sufficient value for recovery, it should be noted (e.g., “*Visual inspection: No patent prints of value were noted on the interior or exterior of the patio door*”). If there were no impressions, it should be noted (e.g., “*Visual inspection: No patent prints were visible on the interior or exterior of the patio door*”).

10.2.3.4 Location and Orientation of Patent Prints. If there are patent prints of sufficient value for recovery, they should be assigned designators and their location and orientation documented through photography, sketches, or notes. A sample note may say, “*Visual inspection: L1 on exterior glass of patio door*.” A location photograph containing a label (Figure 10-5) is an effective method to document the location of the patent print.

10.2.3.5 Examination-Quality Photographs. Because patent prints must be recovered through photography, it is imperative to be able to establish the dimensions or scale for the photographs. This is normally accomplished by including a scale in the photograph. Notes should reflect that examination-quality photographs were taken and include the designator for each print photographed.

10.2.3.6 Development Techniques. The LPE should document which surfaces were processed, which technique(s) were applied, and the results. For example, the notes may reflect, “*Kitchen counter top was processed with black powder; no latent prints of value developed*.”

Returning to the patio door in Figure 10-4, if the LPE decides to use powder to process the door, his or her notes should reflect the results of the processing and display the designator of any latent prints photographed or lifted. The LPE may use a combination of notes, sketches, and photography to document the location and orientation of the designated latent prints. The LPE may note, “*Patio door processed with black powder: L1 developed further; L2 developed on exterior of glass; L3 developed on exterior door knob*.” The LPE should note whether any examination-quality images were taken and whether lifts were made; for example, “*L1, L2, and L3 photographed and lifted after development with black powder*.” Figures 10-6 and 10-7 demonstrate the photographic documentation of the location of developed latent prints.

For each processing technique applied at the scene, the documentation should include:

- The development technique applied.
- The surfaces or items to which the technique was applied.
- An indication of whether no latent prints, no latent prints of value, or latent prints of value were developed.
- The location and orientation of the developed latent prints.
- The method of recovery.

10.2.4 Marking Photographs and Lifts

The photographs and lifts recovered from the scene must be marked in a manner that reflects the origin of the

**FIGURE 10-6**

Location of developed latent prints L1, L2, and L3.

**FIGURE 10-7**

Location of developed latent print L3.

latent print lift or photograph. The lift or photograph should include:

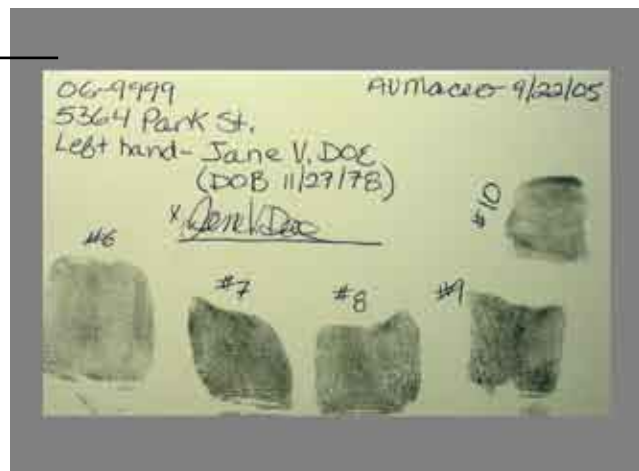
- The case number.
- The date recovered.
- The address of the investigation.
- The surface or item from which the latent print was obtained.
- The name or a unique marking of the LPE (e.g., initials).
- The development technique (if a photograph).
- The latent designator.

Figure 10-8 is an example of a latent lift card containing the recommended information. The “up” designation indicates the orientation of the latent prints to the surface.

10.2.5 Exemplars Prepared by the Latent Print Examiner

It is sometimes necessary for the LPE to prepare known prints of certain individuals connected to the scene, typically victims or witnesses. Regardless of how the exemplars are recorded, they should bear:

- The name of the donor.
- An identifier for the donor (e.g., date of birth).
- The donor’s signature.
- The area of friction ridge skin recorded (e.g., left hand, right hand, or finger name or number).
- The case number, the date, and the name (and signature or initials) of the LPE.

FIGURE 10–8*Annotated lift card.***FIGURE 10–9***Documentation of known prints taken at the scene.*

At the completion of the case, the LPE may retain the exemplars in the case record. Figure 10–9 is an example of known prints taken from the left hand of the victim at the scene.

10.2.6 Latent Print Development on Items of Evidence

Completion of the crime scene response often segues into latent print processing of critical items of evidence at the laboratory. The LPE must be cognizant of the presence of additional types of evidence, such as DNA, trace evidence, or indented writing on an item. In some laboratories, the LPE is responsible for the documentation and collection of the additional evidence prior to latent print processing. In other laboratories, the LPE may need to coordinate with analysts from other sections to document and collect the additional evidence. In either case, the LPE should note who evaluated the item, whether any samples were collected, and the disposition of the collected samples.

10.2.6.1 General Notes. Many agencies use worksheets or free-form notes to document the latent print development activities and observations by the LPE. The date(s) of the activities should be recorded, and each page of the notes should contain the case number, page number, total number of pages, and the initials of the LPE. The latent print processing notes generated at the lab may be a continuation of the notes started at the crime scene or may be a separate set of notes. Separation of the notes depends on whether the agency reports the crime scene response in a separate report from that for the latent print development and examination at the laboratory.

10.2.6.2 Description and Condition of the Evidence. The notes typically begin with the item number and description of the evidence (e.g., “Item 1: B J. P. Schmenckels International kitchen knife”). Items that have serial numbers, such as firearms, should contain the serial number in the description.

**FIGURE 10–10**

Location and orientation of L4.

**FIGURE 10–11**

Examination-quality photograph of L4 after CA processing.

The LPE should indicate the condition of the item. The condition may include whether a surface is smooth or textured and whether the item is dusty, rusty, or contains any residue.

10.2.6.3 Initial Observations. Prior to using any development techniques, the item should be carefully examined for the presence of any patent impressions. If there are no impressions of value noted during the initial observations, the notes should reflect that no patent prints or no patent prints of value were observed.

If patent impressions of value are present, their location and orientation on the item should be documented (through notes, sketches, or photographs) and an examination-quality photograph should be taken. Once again, the LPE must establish the scale for the examination-quality photographs.

10.2.6.4 Latent Print Development and Recovery. Once the initial observations are complete, the LPE must select and determine the sequence of development techniques appro-

appropriate for the item. The notes should reflect the techniques used and the observations of the LPE after each technique. In some laboratories, the LPE may also need to document the lot numbers of the chemicals used and the results of any controls processed concurrently with the evidence.

Item 1, the knife mentioned above that was recovered from the crime scene, was processed with cyanoacrylate (CA) and a fluorescent dye stain (RAM). Figure 10–10 is photographic documentation of the location and orientation of latent print L4 developed on the knife after CA processing. Figure 10–11 is an examination-quality photograph of L4 after CA processing. Figure 10–12 is an examination-quality photograph of L4 after RAM processing. The notes for Item 1 may include the following:

Item 1: J. P. Schmenckels International kitchen knife

Visual: Possible blood on blade of knife; sample of blood from right side of blade obtained and retained by DNA Analyst Watson. Handle has slightly rough surface.

FIGURE 10–12

Examination-quality photograph of L4 after RAM processing.



No patent prints of value visible on the blade; no patent prints visible on handle.

CA: Photo L4 on left side of blade near handle; no latent prints of value developed on handle.

RAM: Re-photo L4; no additional latent prints of value developed on blade; no latent prints of value developed on handle.

10.2.6.5 Marking Items of Evidence. Once processing of the items collected from the crime scene is complete, each item of evidence should be marked for identification prior to final packaging and sealing (ASCLD/LAB, 2005, p 20). The LPE may write the case number and item number directly on the item to serve as a unique identifier. The knife in Figure 10–10 could be marked “06-9999/1” indicating case number 06-9999 and item number 1. The manner in which evidence is marked should be detailed in the technical or procedural manual of the LPE’s agency.

If the item is too small or writing directly on the item will alter or destroy any evidentiary value, the item may be placed inside a container. The container should then be marked with the unique identifier (ASCLD/LAB, 2005, p 21). For example, if a bullet casing was taken from the scene, the casing could be placed in an envelope that is marked with a unique identifier (e.g., case number and item number). The casing, inside the marked envelope, can then undergo final packaging and sealing.

10.2.6.6 Disposition of the Evidence. Once the evidence has been properly packaged and sealed, the LPE should document its final disposition. The LPE should document the date the evidence was released and to whom or where the evidence was released. For some agencies, the evidence is placed in long-term storage by the LPE. For other agencies, the LPE releases the evidence to other personnel responsible for storing the evidence.

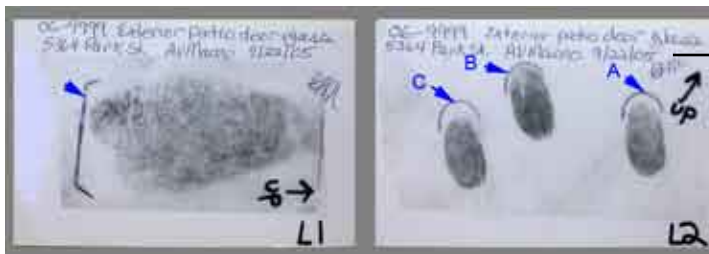
10.2.6.7 Marking Photographs and Lifts. If latent prints were recovered from evidence processed at the laboratory by the LPE, the photographs and lifts should contain the same information as those recovered from the crime scene:

- The case number.
- The date recovered.
- The address of the scene (may be omitted because the address is the laboratory).
- The surface or item from which the latent print was obtained.
- The name and a unique marking of the LPE.
- The development technique (if a photograph).
- The latent designator.

Figure 10–13 is an example of a labeled photograph.

**FIGURE 10-13**

Labeled photograph of L4.

**FIGURE 10-14**

Analysis notes documented on lift cards L1 and L2. Blue arrows point to analysis symbols.

10.2.7 Examination of Friction Ridge Impressions

10.2.7.1 General Notes. After all of the latent prints associated with a case have been properly labeled, the LPE enters the examination phase: analysis, comparison, evaluation, and verification (ACE-V) of the latent prints. The level of documentation can vary among agencies; however, the key is to make sure the LPE indicates:

- Which latent prints are suitable for comparison.
- The source of known prints to be compared.
- The results of the comparisons.
- Who verified any conclusions.

10.2.7.2 Elements of Analysis. The elements to be considered in the analysis of friction ridge impressions should be detailed in the technical or operational manual for the laboratory. Elements of the analysis should include (SWGFAST, 2002, pp 2-3):

- The existence and clarity of level-one, level-two, and level-three detail.

- The possible anatomical source.
- The factors influencing the clarity of the impressions.

The quality of level-one, level-two, and level-three detail is influenced by the following factors: pressure distortion, deposition pressure, development medium, matrix, and substrate (Ashbaugh, 1999, p 109).

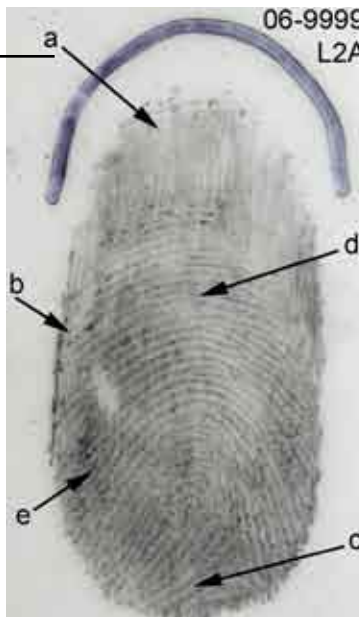
Minimal Documentation of Analysis. Documentation of analysis may be minimal, using symbols to mark directly on the lift cards and photographs. This is particularly effective when the original lifts or photographs are part of the case record. If symbols are used to document the analysis, the proper use and meaning of the symbols should be detailed in the technical or operational manual. Figure 10-14 is an example of analysis notes documented directly onto lift cards L1 and L2; the blue arrows point to the analysis symbols used by the LPE.

If L1 and L2 are part of the case record, they should contain all of the basic elements of the analysis. L1 and L2 are black powder lifts (that is, black powder is the developmental medium) and indicate the location from which the latent prints were recovered (substrate). The latent prints deemed suitable for comparison are marked with symbols. The



FIGURE 10-15

Latent print L2A containing analysis annotations.



symbols also indicate the anatomical source and orientation of each impression. L1 has a bracket delineating the base of a palm impression. L2 has an arch over the top of each finger impression. It is understood that the LPE considered all of the elements of analysis and factors of quality detailed in the technical or operational manual in order to make the determination of suitability for comparison.

Expanded Documentation of Analysis. Worksheets or free-form notes may be used to document the analysis. The notes must contain enough detail to discern which photograph or lift was examined and the results of the analysis of the latent prints. The amount of information to be included on the worksheets or notes should be outlined in an agency's technical or procedural manual.

If the original lifts or photographs are not retained as part of the case record, the LPE needs to be able to connect which latent prints were suitable for comparison on each latent lift and photograph. Without the original or legible reproductions of the original latent lifts and photographs in the case record, this connection would not be possible. The notes for L1 and L2 in Figure 10-14 may be as follows:

L1-Exterior patio door glass

Analysis:

Black powder lift: One palm impression suitable for comparison, appears to be a left hypothenar, normal matrix, average deposition pressure, no discernible pressure distortion.

L2-Exterior patio door glass

Analysis:

Black powder lift: Three finger impressions suitable for comparison (A, B & C) are consistent with simultaneous #7, #8, & #9* fingers, normal matrix, average deposition pressure, pressure distortion caused by apparent downward movement of fingers on surface.

Expanded documentation of the analysis of a complex impression may include photographic enlargements of the impression and detailed notes regarding all of the elements of analysis and factors of quality. Figure 10-15 is an image of a latent print from lift L2 in Figure 10-14. The latent print in Figure 10-15 is referred to as L2A (latent print A from lift L2).

Expanded documentation of the analysis of latent print L2A in Figure 10-15 may include the marked photographic enlargement and the following notes:

L2-Exterior patio door glass

Analysis:

Black powder lift: Three finger impressions suitable for comparison (A, B & C) are consistent with simultaneous #7, #8, & #9 fingers.

* #1 is right thumb, and #10 is left little finger.

**L2A analysis:**

Substrate: The appearance of the latent lift is consistent with the indicated substrate glass from a patio door.

Anatomical aspect: Based on adjacent impressions, L2A is consistent with an impression of a left index finger.

Matrix: Consistent with normal residue.

Deposition pressure: Average deposition pressure across the entire impression, possibly a bit lighter toward the tip of the finger.

Pressure distortion: Caused by apparent downward movement of fingers on surface. Indicators of pressure distortion are marked in the photographic enlargement as a, b, c, d, and e. The original touch of the finger is indicated as "a." As the finger slid across the surface, the detail in this area was obliterated. The direction of travel is noted in the striations present in the impression; one such striation is marked "b." Another indication of pressure distortion is the change in furrow width across the impression. The furrows are widest at the base of impression "c" (also an indication of downward movement). The furrows are slightly narrowed toward the top of impression "d" and are barely discernible on the left side of impression "e."

Level One: Good clarity; small count, left-slant loop; approximately 4 ridges from delta to core.

Level Two: Good clarity overall—ridge paths discernible through most of the impression; some become unclear along the edges of the impression. Ridge paths are difficult to follow just above the core of the impression.

Level Three: Areas of good, fair, and poor quality throughout the impression.

Whether minimal or expanded, the case record should reflect which latent lifts and photographs were analyzed, who analyzed the latent prints and photographs, and the results of the analysis. The amount of detail in the documentation of the analysis will be dependent on the requirements outlined in the applicable technical or operational manual.

10.2.73 Comparison. The next phase of the examination involves the comparison of the unknown friction ridge impressions (latent or patent prints) to the exemplars. The LPE must have some means to document the source of the known prints compared and the evaluation of each comparison. The exact method by which the exemplars are

documented should be detailed in the technical or operational manual.

At a minimum, the case record should indicate the name and an identifier for each source of exemplars compared. This is sometimes annotated in a list in the case notes or on the envelope or packet containing the latent lifts and photographs. For example, some agencies may place all latent prints developed by the LPE in a preprinted envelope. The envelope and its contents are considered part of the case record. The exterior of the envelope typically contains the basic case information and may include a section that lists the names and identifiers of the exemplars compared. The names and identifiers of the exemplars may also be listed in the case notes.

Original or legible copies of the exemplars to be compared should be maintained with the case record or be readily available. This is particularly critical for exemplars associated with one or more of the latent prints (i.e., used to determine an individualization). The original or legible copies of the exemplars may be included in the case notes or placed in the envelope with the latent lifts and photographs. The LPE should also indicate in the case record if additional or better quality exemplars are needed from any of the individuals compared.

The LPE should document which, if any, latent prints were searched through AFIS. Documentation should be sufficient to indicate:

- Which latent prints were searched.
- Which AFIS databases were searched.
- The date(s) the searches were completed.
- Who launched the search.
- Who evaluated the results.

10.2.74 Evaluation. The LPE should document the conclusion of each comparison conducted. This documentation may be minimal or quite detailed, depending on the agency's requirements.

Minimum Documentation of Evaluation. Minimum documentation for individualizations should include annotation on the notes, lifts, or photographs with the following:

- The name and identifier of the source of the impression.
- The anatomical source (e.g., which finger or palm).

FIGURE 10-16

Minimum documentation
of individualizations
annotated on lift L2.



- The identifier (e.g., initials) of the LPE.
- The date the conclusion was rendered.

Figure 10-16 is an example of minimum documentation of individualizations on lift L2.

In lieu of, or in addition to, making the lift or photograph, comparisons may be documented in the notes as follows:

John DOE (ID# 123456): negative 9/22/05.

Susana SMITH (ID# 987654): negative 9/22/05.

Jane DOE (DOB 11/27/78): L2A = #7 LI, L2B = #8 LM, L2C = #9 LR, 9/23/05.

Under minimum documentation, impressions that are compared but not individualized are typically documented in a default manner without markings. In other words, the individualizations are annotated and, by default, all other comparison results (exclusion and inconclusive) in the case are not. Frequently, wherever the LPE lists the names and identifiers of the sources of the exemplars, there is a reference as to whether the person was identified. As in Figure 10-16, the notes, lifts, and photographs containing the annotations are the case documentation by which latent prints were associated with the exemplars. If there are no associations indicated on the lift or photograph, all persons listed were compared with negative results, as recorded in the notes.

Expanded Documentation of Evaluation. The case notes (worksheets or free-form notes) may also contain expanded documentation of the conclusions. The notes must

document the conclusion of the comparison of each latent print with each exemplar. The information included on the worksheets or notes should be outlined in the technical or procedural manual. If the original lifts or photographs are not retained as part of the case record, the LPE should retain legible reproductions of the original latent lifts and photographs in the case record.

Case note documentation of the comparison of L2 with the exemplars of three individuals may be as follows:

L2-Exterior patio door glass

Analysis:

Black powder lift: Three finger impressions suitable for comparison (A, B & C) are consistent with simultaneous #7, #8, & #9 fingers, normal matrix, average deposition pressure, pressure distortion caused by apparent downward movement of fingers on surface.

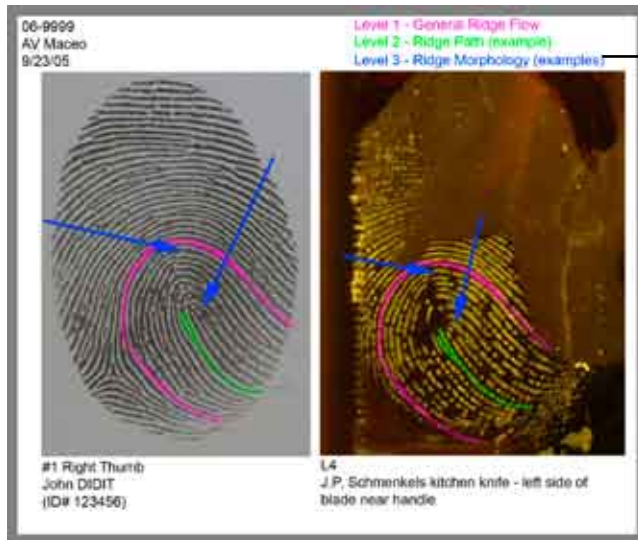
Expanded documentation of an individualization may include enlargements demonstrating a subset of the data used to support the LPE's conclusions. Figure 10-17 is an example of an enlargement demonstrating a limited portion of the level-one, level-two, and level-three detail of a different comparison to support an individualization.

Exemplars Compared and Conclusions:

John DOE (ID# 123456): negative 9/22/05.

Susana SMITH (ID# 987654): negative 9/22/05.

Jane DOE (DOB 11/27/78): L2A = #7 LI, L2B = #8 LM, L2C = #9 LR, 9/23/05.

**FIGURE 10-17**

Enlargements of L4 and exemplar, demonstrating subset of detail used to conclude individualization.

Whether minimal or expanded, the goal of documentation is to ensure that the LPE or a person reviewing the case can discern:

- Which latent prints are suitable for comparison.
- The source of the exemplars compared to the suitable latent prints.
- The conclusions reached from each comparison.

The activities and results of the examination by the LPE should be clear and understandable.

10.2.75 Verification. Verification of any conclusions should be documented in the case record. The technical or procedural manual should indicate which conclusions must be verified and how the verification is documented. (Instances where blind verification is required may require special documentation procedures to preclude the verifier from knowing the original examiner's results.) For some agencies, only the individualizations are verified; for other agencies, all conclusions are verified. Sometimes, verification of all conclusions is dependent on certain criteria, such as the type of case.

The person verifying the conclusions should place his or her personal marking and date in the case record. The personal marking and date may go on each lift containing verified conclusions, on the envelope containing the latent prints, or in the case notes.

10.2.76 Disposition of Lifts and Photographs. The LPE should indicate the disposition of the latent lifts and photographs after the examination is complete. In some agencies, it is only necessary to indicate if the latent lifts and

photographs are not secured in the normal manner. For instance, it may be standard procedure that the latent prints are stored in a secured file cabinet and that the LPE must indicate on the envelope the date that the envelope was secured in the file cabinet. It may also be standard procedure that digital images are stored on a CD in the case file or in an image management database. As long as the standard procedures are followed, no notations are required.

If the original latent lifts and photographs are released to a submitting agency, there should be documentation in the case record as to when the latent prints were released and to whom the latent prints were released.

10.3 Secondary Custody Documentation

11.3.1 Latent Print Development on Items of Evidence

When an LPE receives an item of evidence recovered from a crime scene by other personnel (e.g., a crime scene analyst), additional documentation is needed concerning the chain of custody for the evidence and the packaging of the evidence.

General notes and documentation regarding the description and condition of the evidence, initial observations, latent print development and recovery, marking items of evidence, disposition of evidence, and marking photographs and lifts is detailed in section 10.2.6, Latent Print Development on Items of Evidence.

10.3.1.1 Chain of Custody. The LPE should indicate the date the items were received and from whom. The LPE may receive the item directly from responding personnel or from a secured storage facility.

10.3.1.2 Packaging of the Evidence. The LPE should indicate whether the items were packaged and sealed properly.

For example, the notes may reflect that Items 6, 7, and 8 were received in a sealed brown paper bag. The LPE should also note whether there is any internal packaging. The notes may contain the information as follows:

Sealed brown paper bag received from vault 6/2/06 containing Items 6, 7, and 8. Inside sealed brown paper bag: Item 7 in a manila envelope and Item 8 in a plastic vial; no inner packaging for Item 6.

There are times when an LPE may receive evidence prior to final packaging by the personnel who responded to the scene. This may occur when there is concern that packaging may destroy the latent print evidence. In this circumstance, the LPE should document who delivered the evidence and the date and condition in which the evidence was delivered. After the LPE has completed the latent print development and recovery, the item should undergo final packaging and sealing. The LPE may package and seal the evidence, or the evidence may be returned to the person who initially recovered the item from the scene. Either circumstance must be indicated in the notes.

10.3.2 Examination of Friction Ridge Impressions

The examination of the friction ridge impressions recovered by the LPE from items of evidence submitted by other personnel follows the same documentation discussed in section 10.2.7, Examination of Friction Ridge Impressions.

10.4 Tertiary Custody Documentation

When an LPE receives photographs and lifts of latent prints recovered by other personnel (e.g., a crime scene analyst), additional documentation is necessary to establish the chain of custody for the evidence.

10.4.1 Chain of Custody

Latent lifts and photographs are considered evidence and should be properly packaged and have a chain of custody. The LPE should document all of the pertinent information:

- The case number.
- The address.
- Who recovered the latent prints. The date the latent prints were recovered.
- An inventory of what was received (e.g., the number of lifts, photographs, any sketches or notes, and any elimination prints submitted).

10.4.2 Marking Lifts and Photographs With a Unique Identifier

Each latent lift and photograph should be marked with a unique identifier. The submitted latent lifts and photographs should already bear the case number, which should be annotated on each photograph and lift by the person who recovered the latent prints. The LPE may choose to include a sequential alphabetical or numerical designator to serve as the unique identifier for each lift and photograph. The LPE's initials followed by a sequential number is an effective method for marking the photographs and lifts (e.g., avm 1, avm 2, avm 3, etc.).

It is sometimes helpful to have one system of labeling latent prints developed by the LPE (L1, L2, L3, etc.) and another system of labeling latent prints submitted by other personnel (dbf 1, dbf 2, dbf 3, etc.). Within one case, the LPE may be responsible for examining latent prints he or she recovered, and the LPE may be responsible for examining latent prints recovered by other personnel. A different labeling system readily distinguishes the two in the case record.

10.4.3 Examination of Friction Ridge Impressions

After documenting the chain of custody and placing a unique identifier on the lifts and photographs, the examination of the latent prints proceeds. The documentation of examination (analysis, comparison, evaluation, and verification) of the friction ridge impressions is discussed in section 10.2.7, Examination of Friction Ridge Impressions.



10.5 Conclusion

In order to properly review a case record, the case record should contain sufficient information to illuminate the activities and the results of any conclusions. Documentation of friction ridge impressions begins at the crime scene. A surface or item of evidence should be documented at the scene. The location and orientation of any latent prints developed at the scene should be documented in a manner that connects the latent print to the original surface.

Subsequent development of latent prints on items recovered from the scene should demonstrate the location and orientation of any latent prints developed on the item.

Examination of the recovered latent prints should contain sufficient information that a person reviewing the case record can discern:

- The origin of the latent prints.
- Which latent prints are of sufficient value for comparison.

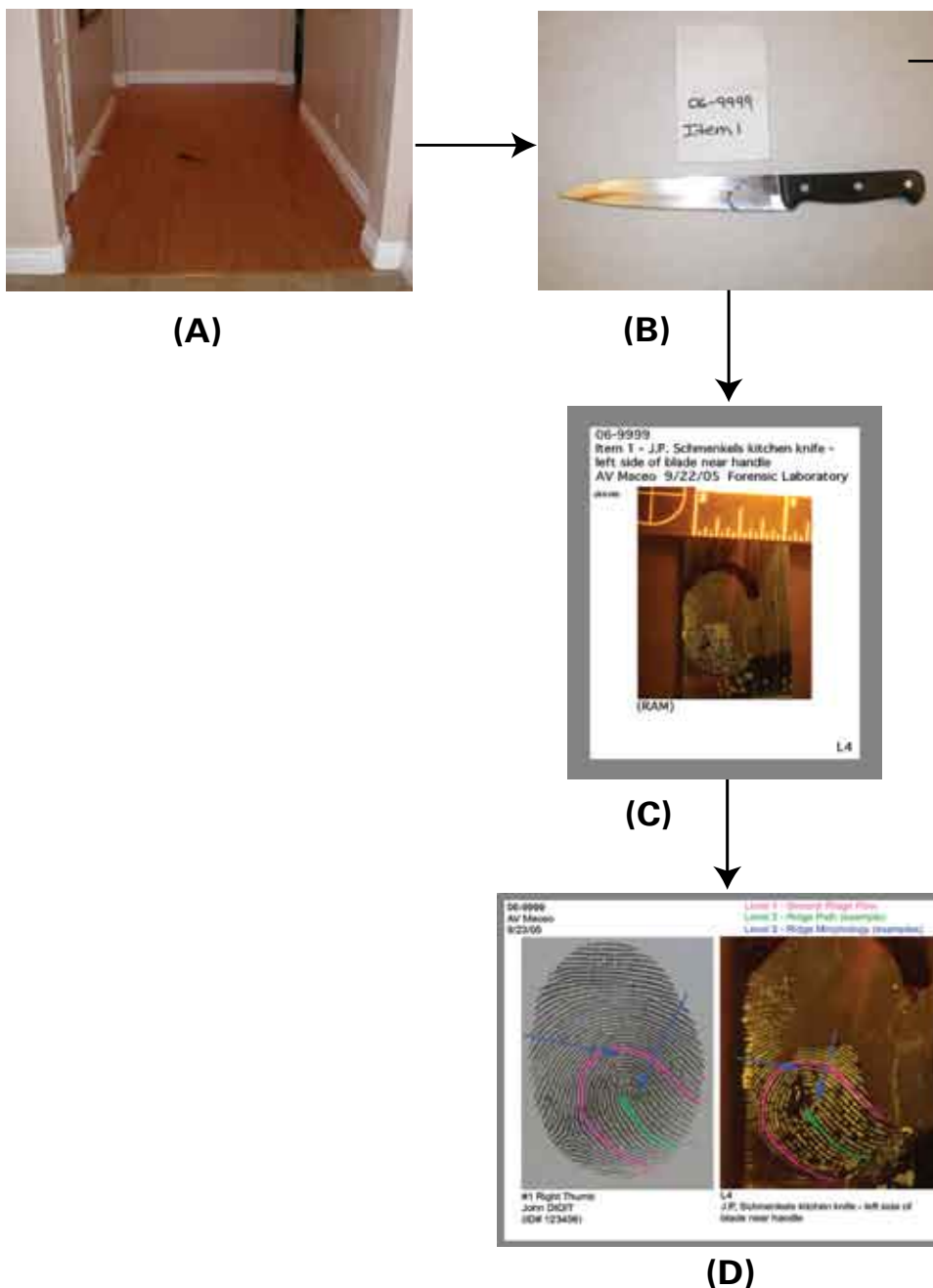


FIGURE 10-18

Documentation of the evidence at the crime scene (A), the location and orientation of the latent print (B), the examination-quality photograph (C), and the examination (D).



- The donor of the exemplars compared to the latent prints.
- The conclusions reached.

Figure 10–18 is an example of how photography may be used to connect all of the elements of documentation for one case.

Latent print examiners should follow the policies and procedures outlined in the technical or operational manual of their agency. It is important that these policies and procedures follow sound scientific practices and are sufficiently detailed to permit an accurate review of the case record. Proper documentation is often the critical component in the admissibility of the evidence.

10.6 Reviewers

The reviewers critiquing this chapter were Leonard G. Butt, Brent T. Cutro, Sr., Robert J. Garrett, and Michael Perkins.

10.7 References

American Society of Crime Laboratory Directors/Laboratory Accreditation Board (ASCLD/LAB). *ASCLD/LAB Manual*; American Society of Crime Laboratory Directors/Laboratory Accreditation Board: Garner, NC, 2005.

Ashbaugh, D. R. *Quantitative-Qualitative Friction Ridge Analysis: An Introduction to Basic and Advanced Ridgeology*; CRC Press: Boca Raton, FL, 1999.

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