



Latent Print Section

Digital Imaging

Comparative & Analytical Division



- I. **Purpose**
 - a. Establish quality control measures to be followed in the utilization of digital imaging and photography in the documentation of latent print evidence.
- II. **Laboratory Practices**
 - a. All images captured will be stored on a memory card and should not be deleted until suitability has been completed.
 - b. Through the entire process, all examiners and/or processors are responsible for authenticating images (accurate representations of what was seen/photographed) and ensuring the integrity of the images by adhering to these procedures.
- III. **Digital Imaging System Security**
 - a. Images will be maintained and archived in a manner to avoid loss of the image or data. The integrity of the image will be maintained using devices and methods approved by the Houston Forensic Science Center (HFSC).
 - b. All authorized individuals will have their own unique login and password.
 - c. When using a laboratory shared computer, the examiner/processor should log out of the workstation as soon as practical once laboratory related tasks are completed.
- IV. **Equipment**
 - a. The following equipment is available in the laboratory for evidence recovery photography. This list is not limited to additional equipment that can be added and utilized as needed.
 - i. Digital camera with a full frame sensor
 - ii. Copy Stand
 - iii. Macro lens
 - iv. Lens filters
 - v. Diffusion gels
 - vi. Various light sources (ALS, LASER, LED paddle lights, etc.)
 - vii. Magnifier
 - viii. Scanner
 - b. Additional equipment may be added and/or used with approval from the technical lead, manager and/or designee.
- V. **Equipment Maintenance**
 - a. Standard cleanliness practices should be conducted on a routine basis.
 - i. Keeping camera, camera lenses and filters dust free.
 - b. Refer to Equipment Maintenance and Performance Checks SOP for additional information.
- VI. **General Photography**
 - a. The examiner/processor may take photographs or scans, using general photographic techniques, for documentation purposes or to show an entire area of interest prior to using examination quality photographic techniques.
 - i. Images may be in JPEG (.jpg) format.
 - ii. A scale may or may not be placed in the photograph.



- b. Case number and processor/examiner initials shall be present in either the image or filename.
- c. When scanning or photographing administrative documentation of lift cards or miscellaneous documentation, a resolution lower than 1000ppi (pixels per inch) may be utilized. The resolution should allow for the image to be legible.

VII. Examination Quality Photography

- a. The examiner/processor capturing the image must verify that it accurately portrays the details seen in or on the evidence. This includes determining if the image has the optimal resolution, contrast, depth of field, and range of brightness necessary.
- b. It will be the examiner/processor's responsibility to ensure that the content of the digital image has been accurately recorded for further examinations.
- c. Latent/inked print images should be captured at a calibrated resolution of 1000 ppi or greater. It should be noted that there will be circumstances when the capture of an image at the 1000 ppi resolution or greater is not possible or has not been accomplished. It will then be the responsibility of the examiner assigned to that case to determine the viability of that image for examination.
- d. A marker or label including the case number, PSL designation, examiner and/or processor initials, date and item number shall be utilized in examination quality photographs.
- e. The examiner/processor should fill the frame of the image to contain the possible suitable latent (PSL) and the scale with minimal extraneous information.
- f. All digital images will be captured using an uncompressed or lossless image file format such as RAW (.nef) or TIFF (.tif).
- g. All examination images created by HFSC will include a scale to calibrate the image to 1:1.

VIII. Examination Quality Scanning

- a. Ensure the scanner is set to no color correction and the auto contrast is not selected.
- b. The individual scanning must verify that the evidence is captured in its entirety and an accurate representation of the evidence.
- c. Latent/inked print images will be captured at a resolution of 1000 dpi (dots per inch) or greater and in 24bit color.
- d. All digital images will be captured using an uncompressed or lossless image file format such as TIFF (.tif).

IX. Digital Imaging Enhancements

- a. Only approved software will be utilized to perform any enhancements, such as Adobe Photoshop.
- b. Any images that will or may be used for comparison purposes should be documented to include the history of the enhancements performed.
 - i. Adobe Photoshop can automatically record and retain all enhancements through the metadata of the image.
 - 1. Metadata detailed
- c. Enhancement tools approved are those that generally have direct counterparts in conventional photography, which include but are not limited to Dodge/Burn, Levels and Grayscale.



- d. Tools prohibited for use on working images include but are not limited to; Rubber Stamp/Clone Stamp, Airbrush, Paint Bucket, and Blur.

X. Digital Image Storage/Archive

- a. All images created will be retained in the approved digital management system.
 - i. Out of focus, unusable images do not need to be retained.
- b. The original digital photographs and any working copies used for examination documentation are stored in the digital management system under the appropriate case requests.
- c. All LPP examination quality images created will be maintained in the "PSL folder" within Mideo.
- d. Images will be disseminated to the requestor upon request.

XI. Safety Considerations

- a. Proper Personal Protective Equipment (PPE) when handling items of physical evidence and equipment is necessary to limit any potential contamination.
- b. Standard PPE includes the use of a laboratory coat and gloves.
 - i. When handling items that may require further examination by another section, such as biology, standard PPE and the addition of a face mask will be worn.
- c. Due to the fragile nature of friction ridge detail, items of evidence should be handled with care when taking photographs.

References

- 1. ASTM E3235-21 Standard Practice for Latent Print Evidence Imaging Resolution

Wording Removed from Previous Versions

Clause	Wording Removed