Technical Procedure for Non-Porous Evidence

1.0 Purpose – This procedure describes the procedure for non-porous items of evidence submitted for latent evidence analysis.

2.0 Scope – This procedure applies to non-porous items of evidence. The following procedures contain the available options for non-porous processing. The Forensic Scientist is responsible for determining which methods to apply. Type and condition of evidence may limit which procedures may be used. This procedure does not include adhesive surface processing.

3.0 Definitions

- **Non-Porous -** Any item of evidence, or part of an item of evidence, that does not absorb fingerprint residue.

4.0 Equipment, Materials and Reagents

4.1 Equipment and Materials

- Alternate light sources (CrimeScope, Mini-CrimeScope, TracER Laser)
- Image Processing System
- Protective Clothing
- Gloves

4.2 Reagents

- Fingerprint powder (black, bi-chromatic, gray, silver, white, magnetic, etc.)
- Cyanoacrylate ester (bottle/vial, HotShot, Wand Tips)
- Fluorescent dye (Rhodamine 6G, Ardrox, Basic Yellow, etc.)

5.0 Procedure

5.1 The following is a list of the recommended processing procedures for non-porous items of evidence that are submitted for analysis.

Note: The Forensic Scientist has the authority to determine the most appropriate method by which to process a particular item of evidence based on his/her training and experience.

- Visual examination using ambient light
- Inherent luminescence (LASER and/or alternate light source)
- Cyanoacrylate fuming
- Powder(s)
- Fluorescent dye (Rhodamine 6G, Basic Yellow, Nile Red, etc.)
- Alternate light source (LASER, Crime Scope, or Mini-Crime Scope)
- Blood print processing (Amido Black, Coomassie Blue, etc.)
- Adhesive surface processing (Tape Glo, Sticky-Side Powder, Crystal Violet)
- Wet processing (Small Particle Reagent)
- Grease print processing (Sudan Black)

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5.2 Standards and Controls – N/A

5.3 Calibration – N/A

5.4 Sampling – N/A

5.5 Calculations – N/A

5.6 Uncertainty of Measurement - N/A

6.0 Limitations – Note: The Forensic Scientist shall determine, based on training and experience, which chemical processing techniques are most appropriate for an item of evidence. Based on the condition of the evidence at the time of submission, some processing steps may be omitted.

7.0 Safety –All chemicals shall be used in the fume hood or in a well ventilated area. Additionally, appropriate protective clothing shall be worn when handling all chemicals.

8.0 References

Kent, T., ed. *Manual of Fingerprint Development Techniques: A Guide to the Selection and Use of Processing for the Development of Latent Fingerprints.* Police Scientific Development Branch, London (July 1992).

Lee, H.C. "Methods of Latent Print Development." *Proceedings of the International Forensic Symposium on Latent Prints.* (July 1987): 15–24.

Lennard, C.J. and P.A. Margot. "Sequencing of Reagents for the Improved Visualization of Latent Fingerprints." *Proceedings of the International Forensic Symposium on Latent Prints.* (July 1987): 141-142.

Manual of Fingerprint Development Techniques: A Guide to the Selection and Use of Processes for the Development of Latent Fingerprints. Scientific Research and Development Branch, London (1986).

Trozzi, T.A., R.L. Schwartz and M.L. Hollars. *Processing Guide for Developing Latent Prints.* (2000): 1-64.

US Department of Justice. *Chemical Formulas and Processing Guide for Developing Latent Prints.* FBI Laboratory Division, Latent Fingerprint Section (1994).

Wallace-Kunkel, C., et al. "The Detection and Enhancement of Latent Fingermarks on Porous Surfaces – A Survey." *Journal of Forensic Identification*. Vol. 54, 6: 687–705 (2004).

9.0 Records – N/A

10.0 Attachments – N/A

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Revision History		
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09/17/2012	1	Original Document

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