

OSAC 2021-N-0020 Best Practice Recommendation for Limited Friction Ridge Examinations

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Organization of Scientific Area Committees (OSAC) for Forensic Science*





OSAC Proposed Standard

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Prepared by
Friction Ridge Subcommittee
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1. Introduction

- 1.1. This document has been developed with the objective of improving the efficiency while maintaining the quality and consistency of friction ridge examination practices.
- 1.2. For the purposes of this document, examinations include both latent print processing (conducted in a laboratory setting) and friction ridge examinations. These examinations and their results should be within the examination's limitations and/or the probative needs of the customer, in consultation with the customer, and their results should be provided to customers in a timely manner. In some cases, limiting or deferring certain examinations provides more timely results to the customer and conserves the resources of the forensic service provider (FSP).
- 1.3. Limited examinations are exams that are not complete with regard to the FSP's capabilities; evidence may exist that has not been partially or fully processed and/or latent prints exist that have not been analyzed and/or compared.
 - 1.3.1. Limited examinations are not performed through random sampling.
- 1.4. In some situations, limited examinations are advantageous to FSPs and its customers for any of the following reasons (not an all-inclusive list):
 - 1.4.1. probative value of the evidence
 - 1.4.2. crime type considerations (i.e. people versus property)
 - 1.4.3. backlog reduction
 - 1.4.4. increased case throughput
 - 1.4.5. effective resource allocation and usage
- 1.5. In this document, the following verbal forms are used: "*shall*" indicates a requirement, "*should*" indicates a recommendation; "*may*" indicates permission; and "*can*" indicates a possibility or capability.

2. Scope

- 2.1. This document describes what limited examinations are and provides the best practice recommendations on how limited examinations should be conducted. It also describes what documentation is necessary if limited examinations are utilized by a forensic service provider.
- 2.2. This document does not address limiting the collection and preservation of evidence.

3. Terms and Definitions

For the purposes of this document, the following terms and definitions apply:

- 3.1. Customer: Client, authority, organization or person(s) requesting the forensic services.

- 3.2. Examination: The act or process of observing, searching, detecting, recording, prioritizing, collecting, analyzing, measuring, comparing, and/or interpreting.
- 3.3. Examiner (Friction Ridge)/Competent Friction Ridge Examiner: An individual who has successfully completed their FSP's training program and has demonstrated to the FSP that they possess the knowledge, skills and abilities to perform the tasks required of their current position. An individual authorized to conduct friction ridge examinations for the FSP by observing and interpreting data, making decisions, forming conclusions and opinions, issuing reports and/or providing testimony.
- 3.4. Forensic Service Provider (FSP): A forensic science entity or forensic science practitioner providing forensic science services.
- 3.5. Friction Ridge Detail/Features: The combination of ridge flow, ridge characteristics, and ridge structure of friction ridge skin, as observed and reproduced in an impression. A large subset of the observed data used to compare and interpret similarity or dissimilarity between two impressions.
- 3.6. Limited processing: the selective application of sequential processing without exhausting the full capabilities of the FSP.
- 3.7. Minutia: The point where a friction ridge begins, terminates, or splits into two or more ridges. A subset of the friction ridge detail/features traditionally consisting of ridge endings, bifurcations, and dots/short ridges used to compare and interpret similarity and dissimilarity between two impressions.
- 3.8. Observed Data: Any demonstrable information observed within an impression that an examiner relies upon to reach a decision, conclusion or opinion. This has historically been expressed as "features" or "minutiae," but the use of the broader term "observed data" is inclusive of other types of data that may be considered beyond minutiae, such as quality, scars, creases, edge shapes, pore structure, and other friction ridge features.
- 3.9. Sequential Processing: the application of chemical and/or physical friction ridge development techniques in a specific order to target specific constituents of friction ridge impressions which may be visualized for examination and to maximize the preservation of the friction ridge detail during each process. FSP policy and capabilities dictate the full spectrum of sequential processes available to examiners and a minimum standard for their application.

4. General Recommendations

4.1. Evidence Processing

- 4.1.1. The potential probative value of evidence should be assessed when deciding which evidence to process first (i.e. not processing items determined to be

irrelevant to the case, halting comparisons after multiple identifications have been made to the same individual, etc.).

- 4.1.2. Offense type may be considered by the FSP or in consultation with the customer when determining which cases to process first. Offenses that present a more egregious threat to public safety may be prioritized; however, consideration should be given when determining the extent to which any particular case may be examined.
- 4.1.3. When considering backlog mitigation strategies, selecting specific processing techniques with higher sensitivity instead of conducting full sequential processing may be necessary to improve efficiency and throughput. When selecting limited processing techniques, the FSP should consider the potential of a given technique for negatively impacting subsequent processing. At a minimum, any friction ridge detail of potential value that has been developed shall be photographed and/or retained and the integrity of the item shall be maintained for potential future examination. Backlog reduction may also include conducting limited processing of certain items (e.g. cartridge cases) that have a low success rate.
- 4.1.4. FSP submission guidelines may include packaging recommendations that will maximize latent print processing results (i.e. separating drugs from the packaging prior to submission).

4.2. Friction Ridge Examinations

- 4.2.1. Examiners may search and/or compare friction ridge impressions developed on the most probative items first and may stop when the investigative needs of the customer have been met (i.e. person(s) of interest is/are identified). Additional comparisons can be completed by the request of the customer.
- 4.2.2. Develop and retain all suitable friction ridge impressions; however, defer any remaining manual comparisons once each named person of interest has been identified on the surface or item(s).
- 4.2.3. Submit and search all AFIS quality friction ridge impressions first and report any conclusions made from the automated searches. Non-AFIS quality friction ridge impression comparisons may be completed upon an additional request from the customer.
- 4.2.4. Perform automated searches using auto-extracted minutiae first (e.g. an image-only search) and if no identifications are made, perform a second search by using manually-encoded minutiae or ‘cleaning up’ the auto-extracted minutiae.
- 4.2.5. FSP policy may allow or require the restriction on which databases are searched to reduce the amount of time spent on each examination (e.g. only search a local database for specific types of crimes).

4.3. Necessary Documentation and Reporting

- 4.3.1. The FSP shall communicate with the customers when performing limited examinations; both to determine if the examination is still required and to establish the extent or order of the examinations.
- 4.3.2. Any FSP that performs or plans to perform limited examinations shall notify any customers of that policy in advance. The extent of the examination shall be documented in the case file and reported to the customer. This documentation shall include any evidence that was not processed and/or any friction ridge impressions that were of potential value that were not analyzed or compared.
- 4.3.3. Any limited examination approach used should be conducted minimizing the inhibition of future processing and/or comparisons. This would allow additional examinations at a later date. It is up to the FSP to weigh the advantages and disadvantages in deciding whether to implement a limited examination policy.

5. Appendix A: Change Log

| Version | Date | Change |
|---------|-----------|----------------|
| 1.0 | 3/18/2021 | Original Issue |
| 2.0 | 4/5/2022 | Final Issue |