

Standard for Friction Ridge Examination Conclusions

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OSAC Proposed Standard

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Disclaimer:

This document has been developed by the Friction Ridge Subcommittee of the Organization of Scientific Area Committees (OSAC) for Forensic Science through a consensus process and *proposed* for further development through a Standard Developing Organization (SDO). This document is being made available so that the forensic science community and interested parties can consider the recommendations of the OSAC pertaining to applicable forensic science practices. The document was developed with input from experts in a broad array of forensic science disciplines as well as scientific research, measurement science, statistics, law, and policy.

This document has not been published by a SDO. Its contents are subject to change during the standards development process. All stakeholder groups or individuals are strongly encouraged to submit comments on this proposed document during the open comment period administered by the Academy Standards Board (ASB).

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1. Introduction

- 1.1. This document has been developed with the objective of improving the quality and consistency of friction ridge examination practices.
- 1.2. In reaching a conclusion, an examiner assesses the support of the observations for whether the two friction ridge impressions originated from the same source or from different sources. This document establishes the use of five conclusions: Source Exclusion, Support for Different Sources, Inconclusive/Lacking Support, Support for Same Source, and Source Identification.
- 1.3. 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 standard defines terms and establishes qualitative expressions for the range of conclusions that may be reached following friction ridge comparisons.
- 2.2. For the purpose of this document, conclusions are defined as expert opinions based on the friction ridge detail and information under observation and interpreted using acquired knowledge, skill, and experience of a friction ridge examiner.
- 2.3. This document does not cover the following topics:
 - 2.3.1. Conclusions derived directly from and entirely dependent upon validated probability models or quantitative processes.
 - 2.3.2. The manner by which examiners arrive at their assessments of the strength or weight of the findings with respect to the source of the questioned impression.
 - 2.3.3. Suitability determinations rendered on a friction ridge impression.
 - 2.3.4. Documentation of Conclusions.

3. Terms and Definitions

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

- 3.1. Correspondence: An observation of friction ridge details and other information in agreement in terms of their type, orientation, and relative spatial relationship to each other; an accumulation of similarities between two impressions resulting in an overall conformity or agreement.

- 3.2. 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.
- 3.3. Similarity: An observation that two impressions share a general likeness of details; not to be confused with correspondence.
- 3.4. Source: An individual from which an item (e.g. crime scene impression) originates.

4. General Requirements

This clause establishes the conclusions an examiner may reach when comparing two friction ridge impressions. In reaching a conclusion, an examiner considers the observed similarities and dissimilarities and assesses the relative support of the observations under the following two propositions: the two impressions originated from the same source or from different sources. Similarities generally provide support for the proposition that two impressions originated from the same source, while dissimilarities generally provide support for the proposition that two impressions originated from different sources.

An examiner may utilize their knowledge, training, and experience as well as statistical or probabilistic systems to evaluate how much support the observed similarities or dissimilarities provide for one proposition over another. A conclusion shall not be communicated as a fact. It is an interpretation of observations made by the examiner and shall be expressed as an expert opinion.

4.1. Source Exclusion

Source Exclusion is the conclusion that two friction ridge impressions did not originate from the same source.

Source Exclusion is reached when in the examiner's opinion, considering the observed data, the probability that the two impressions came from the same source is considered negligible.

4.2. Support for Different Sources

Support for Different Sources is the conclusion that the observations provide more support for the proposition that the impressions originated from different sources rather than the same source; however, there is insufficient support for a Source Exclusion. The degree of support may range from limited to strong or similar descriptors of the degree of support. Any use of this conclusion shall include a statement of the degree of support and the factor(s) limiting a stronger conclusion.

4.3. Inconclusive / Lacking Support

Inconclusive / Lacking Support is the conclusion that the observations do not provide a sufficient degree of support for one proposition over the other. Any use of this conclusion shall include a statement of the factor(s) limiting a stronger conclusion.

4.4. Support for Same Source

Support for Same Source is the conclusion that the observations provide more support for the proposition that the impressions originated from the same source rather than different sources; however, there is insufficient support for a Source Identification. The degree of support may range from limited to strong or similar descriptors of the degree of support. Any use of this conclusion shall include a statement of the degree of support and the factor(s) limiting a stronger conclusion.

4.5. Source Identification

Source Identification is the strongest degree of association between two friction ridge impressions. It is the conclusion that the observations provide extremely strong support for the proposition that the impressions originated from the same source and extremely weak support for the proposition that the impressions originated from different sources.

Source Identification is reached when the friction ridge impressions have corresponding ridge detail and the examiner would not expect to see the same arrangement of details repeated in an impression that came from a different source.

4.6. Qualifications and Limitations

- 4.6.1. An examiner shall not assert that a source identification is the conclusion that two impressions were made by the same source or imply an individualization to the exclusion of all other sources.
- 4.6.2. An examiner shall not suggest that the offered conclusion is an expression of absolute certainty.
- 4.6.3. An examiner shall not assert or imply that latent print examination is infallible or has a zero-error rate.
- 4.6.4. An examiner shall not cite the number of latent print comparisons performed in his or her career as a measure for the accuracy of a conclusion offered in the case at hand.
- 4.6.5. An examiner shall not use the expression ‘reasonable degree of scientific certainty’ or similar assertions as a description of the confidence held in his or her conclusion.

5. Appendix A: Change Log

Version	Date	Change
1.0	06/27/2018	Original Issue