

FBI Approved Standards for Scientific Testimony and Report Language for the Forensic Examination of Fibers

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1 PURPOSE

This document provides examples of the scientifically-supported conclusions and opinions approved for reporting examination conclusions and offering expert opinion statements during testimony by Fiber Examiners within the Trace Evidence. It is noted that these examples are not intended to be all inclusive and may be dependent upon the precedent set by the judge or locality in which a testimony is provided. Further, these examples are not intended to serve as precedent for other forensic laboratories and do not imply that statements by other forensic laboratories are incorrect, indefensible, or erroneous.

2 SCOPE

This document applies to Trace Evidence Unit employees who prepare a Laboratory Report (7-1, 7-1 LIMS) and/or provide testimony for textile fiber examinations.

3 STATEMENTS APPROVED FOR FBI TRACE EVIDENCE UNIT EXAMINATION TESTIMONY AND/OR LABORATORY REPORTS

For additional guidance on report writing, see the [TRACE-100: Quality Manual](#).

3.1 Fiber Classification

The Examiner may assert that a textile fiber is natural or manufactured (man-made).

3.1.1 Natural Fibers

The Examiner may assert the type of natural fiber (e.g., cotton, wool, silk).

3.1.2 Manufactured Fibers

- A. The Examiner may assert the type of manufactured fiber (e.g., polyester, nylon).
- B. The Examiner may further assert that the manufactured fiber is consistent with a particular sub-group (e.g., polyethylene terephthalate, nylon 6).

3.2 Comparisons

3.2.1 Inclusion

- A. The Examiner may assert that the questioned fiber exhibits the same microscopic characteristics and optical properties as the known sample and accordingly, the questioned fiber is consistent with originating from the source of the known sample or from another item comprised of fibers that exhibit the same microscopic characteristics and optical properties.
- B. The Examiner may also assert that two or more questioned fibers exhibit the same microscopic characteristics and optical properties and accordingly, are consistent

with originating from the same item or from different items comprised of fibers that exhibit the same microscopic characteristics and optical properties.

- C. A fiber association is not a means of positive identification and the number of possible sources for a specific fiber is unknown. However, due to the variability in manufacturing, dyeing, consumer use, and published studies, one would not expect to encounter a fiber selected at random to be consistent with a particular item.

3.2.2 Exclusion

- A. The Examiner may assert that the questioned fiber is dissimilar to the known fiber sample and accordingly, is not consistent with originating from the source of the known sample.
- B. The Examiner may also assert that two or more questioned fibers are dissimilar and accordingly, not consistent with originating from the same item.

3.2.3 Inconclusive

The Examiner may assert that no conclusion can be reached because there are insufficient microscopic characteristics or optical properties to determine whether or not two or more fibers are consistent with originating from the same source.

4 STATEMENTS NOT APPROVED FOR FBI MICROSCOPIC FIBER EXAMINATION TESTIMONY AND/OR LABORATORY REPORTS

4.1 Individualization

The Examiner may not assert that a fiber came from a particular source to the exclusion of all other sources.

4.2 Statistical Weight

The Examiner may not assert a statistical weight or probability to a conclusion or provide a likelihood that the questioned fiber originated from a particular source.

4.3 Zero Error Rate

The Examiner may not assert that the method used in performing fiber examinations has a zero error rate or is infallible.

4.4 Scientific Certainty

An Examiner shall not use the expressions 'reasonable degree of scientific certainty,' 'reasonable scientific certainty,' or similar assertions of reasonable certainty in reports or testimony unless required to do so by a judge or applicable law.

5 LABORATORY REPORT REVIEWS

The content of a Laboratory Report will be reviewed per the appropriate [LAB-200: Operations Manual](#) practices and the [TRACE-100: Quality Manual](#) to ensure compliance with the approved statements in this document.

6 TESTIMONY REVIEWS

Testimonies involving fiber examinations and comparisons will be reviewed following the [LAB-100: Quality Assurance Manual](#). The review will assess the testimony for compliance with the statements in this document.

7 REFERENCES

LAB-100: Quality Assurance Manual, FBI Laboratory (current version)

Lab-200: Operations Manual, FBI Laboratory (current version)

TRACE-100: Quality Manual, Trace Evidence Unit, FBI Laboratory (current version)

Department of Justice Uniform Language for Testimony and Reports for the Forensic Textile Fiber Discipline (current version)

8 REVISION HISTORY

Revision	Issue Date	Changes
04	01/28/2022	Reformatted document. Updated Scientific and Biometrics Analysis Unit name throughout. Updated referenced document names.
05	08/15/2024	Removed SBAU references.