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| ATF-LS-TE16 Trace Report Writing | Published Online: March 2018 |
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I. SCOPE

This guideline describes the information that should be included in reports that contain expert opinions concerning analyses, comparisons, associations, and other interpretations drawn from the data generated or other information gathered during a forensic trace evidence examination.

ATF laboratory protocols for report writing must be followed (ATF-LS-5.10 Reporting the Results of Analysis).

II. REFERENCES

1. ASTM International. ASTM E620-04 Standard Practice for Reporting Opinions of Technical Experts. ASTM International, West Conshohocken, Pennsylvania. Available: <http://www.astm.org/Standards/E620.htm>.
2. International Organization for Standardization/International Electrotechnical Commission (ISO/IEC). ISO/IEC 17025:2005 General Requirements for the Competence of Testing and Calibration Laboratories. ISO/IEC, Geneva, Switzerland. Available: <https://www.iso.org/standard/39883.html>
3. American Society of Crime Laboratory Directors /Laboratory Accreditation Board (ASCLD/LAB). ASCLD/LAB-International 6.001.SR.2004-rev.0 Supplemental Requirements for the Accreditation of Forensic Science Testing and Calibration Laboratories. ASCLD/LAB, Garner, North Carolina.
4. Scientific Working Group on Materials Analysis (SWGMAT) Expert Reporting Guidelines, January 2009 [Online]. Available at: https://drive.google.com/file/d/0B1RLIs_mYm7eY0ZzTWZqQUxiVm8/view

III. WRITTEN REPORT CONTENT

Opinions and Conclusions

It is the responsibility of the examiner to use only meaningful data in the evaluation of the evidence. The opinion(s) should be based only on such data. Conclusion(s) should be consistent with all of the significant data developed and accepted physical scientific principles.

Any inconsistencies between data and conclusion(s) drawn should be identified and explained in writing in the report prior to or coincident with issuing an opinion (e.g., comparison made between weathered and unweathered fibers). Any limitations in conclusions or opinions should be stated.



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Refer to individual sub-discipline protocols for guidance with regards to interpretation of data, limitations of each sub-discipline, and when necessary, generally accepted conclusions for each evidence type. The following descriptions are meant to provide context to the opinions that can be reached in Trace Evidence and give guidance with regards to wording of Trace Evidence reports; however, exact wording should be left to the discretion of the examiner. Every type of conclusion listed below may not be applicable in every case nor for every material type:

Identification: Typically a physical match or fracture match; items physically fit back to one another or there are a number of unique characteristics, demonstrating that the items were once a single object or from the same source. Other types of items may lend themselves to positive associations if there is sufficient quality and quantity of corresponding features such that the examiner would not expect to find the same combination of features repeated in another source.

High Degree of Association: Items are consistent in observed and measured physical properties and/or chemical composition and share atypical characteristic(s) that would not be expected or present in the population of this evidence type.

Association: Items are consistent in observed and measured physical properties and/or chemical composition and, therefore, could have originated from the same source. Because other items have been manufactured that would also be indistinguishable from the submitted evidence, an individual source cannot be determined.

Limited Association: Items are consistent in observed and measured physical properties and/or chemical composition and, therefore, could have originated from the same source. As compared to an association, items categorized as a limited association share characteristics that are more common amongst these kinds of manufactured products or are commonly encountered in the environment. Alternatively, an association between items would be categorized as a limited association if a limited analysis was performed due to characteristics or size of the specimen(s).

Inconclusive Association: Items are consistent in some, but not all, physical properties and/or chemical composition. Some minor variation(s) exists between the known and questioned items and could be due to factors such as sample heterogeneity, contamination of the sample(s), or having a sample of insufficient size to adequately assess homogeneity of the entity from which it was derived.

Unsuitable for comparison: No conclusion could be reached regarding an association/elimination between the items.



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Inconclusive Non-association: The items appear to exhibit some dissimilarities; however, there are limiting factors in the samples (such as lacking in quantity, quality and/or detail) that do not permit an elimination

Elimination (Non-association): The items were dissimilar in physical properties and/or chemical or elemental composition, indicating that they did not originate from the same source.

Sampling/Sample Selection

Refer to individual sub-discipline protocols for guidance as to whether sampling or sample selection should be employed and how it should be reported.

Improper Reporting Practices

Reports that contain only raw analytical data (e.g., refractive-index data) or results without an explanation of their meaning are inadequate because such practices may lead to a misunderstanding of the results and inappropriate conclusions being drawn by persons lacking sufficient forensic science expertise.

Terminology such as “consistent in physical measurements” or “the same chemical and optical properties” may be used; however, some type of final conclusion statement must be included to further explain the evidential value and/or significance of the evidence in light of the findings. While there are many ways to add clarity to the findings in a report, some examples of this final conclusion statement may include “therefore the K and Q glass samples could have shared a common origin” or “the K and Q fiber samples could have come from the same source or from another source having the same microscopic properties and chemical composition”. The addition of a disclaimer statement may also provide clarification to the findings such as “The comparison of the microscopic characteristics in hairs does not constitute a basis for absolute personal identification. The probative value of hair comparisons may be affected by the results of DNA analysis”.