

Expert Reporting Guideline

Scientific Working Group on Materials Analysis (SWGMA^T)

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1.0. 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 evidence examination.

Information required in the report is listed in Sections 4.1 through 4.4. The additional information detailed in Section 4.5 shall be recorded in the report, attached as an appendix, or documented in the case records. This guideline is not intended to provide a specific format for writing an expert report but rather to list those items that should be included.

2.0. Referenced Documents

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>.

ASTM International. ASTM E678-07 *Standard Practice for Evaluation of Scientific or Technical Data*. ASTM International, West Conshohocken, Pennsylvania. Available: <http://www.astm.org/Standards/E678.htm>.

ASTM International. ASTM E860-07 *Standard Practice for Examining and Testing Items That Are or May Become Involved in Litigation*. ASTM International, West Conshohocken, Pennsylvania. Available: <http://www.astm.org/Standards/E860.htm>.

ASTM International. ASTM E1020-96(2006) *Standard Practice for Reporting Incidents That May Involve Criminal or Civil Litigation*. ASTM International, West Conshohocken, Pennsylvania. Available: <http://www.astm.org/Standards/E1020.htm>.

ASTM International. ASTM E1188-05 *Standard Practice for Collection and Preservation of Information and Physical Items by a Technical Investigator*. ASTM International, West Conshohocken, Pennsylvania. Available: <http://www.astm.org/Standards/E1188.htm>.

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: http://www.iso.org/iso/Catalogue_detail?csnumber=39883.

International Laboratory Accreditation Cooperation (ILAC). ILAC-G19:2002 *Guidelines for Forensic Science Laboratories*. ILAC, Rhodes, Australia. Available: http://www.ilac.org/documents/g19_2002.pdf.

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.

SWGMA Trace Evidence Quality Assurance Guidelines, January 1999 Revision, *Forensic Science Communications* [Online]. (January 2000). Available: <http://www.fbi.gov/hq/lab/fsc/backissu/jan2000/swgmat.htm>.

3.0. Terminology

Client (Customer): Intermediate or ultimate user of the information generated from the examination.

Data: All qualitative and quantitative information, whether documentary, physical, observed, measured, or collected.

Oral Report: Verbal communication supplying information pertaining to samples collected, the analysis performed, data generated, information gathered, conclusion(s) drawn, and opinion(s) rendered concerning the examination.

Significant Data: Data that are relevant, material, reliable, accurate, and probative to the facts at issue or the question(s) raised.

Testimony: Written or oral sworn statements given by the examiner in any legal forum or procedure.

Written Report: Written communication supplying information pertaining to samples collected, the analyses performed, data generated, information gathered, conclusion(s) drawn, and opinion(s) rendered concerning the examination. This can be either a preliminary, investigative, final, amended, or supplementary document. A written report may be in electronic format.

4.0. Written Report Content

Written reports shall contain the following information:

4.1. Descriptive Information

4.1.1. Identification number or other unique identifier of the report, as well as the page number and total number of pages (e.g., "Page 1 of 5"), on each page of the report.

4.1.2. Date of issuance of the report.

4.1.3. Identification, address, and affiliation of the person issuing the report.

4.1.4. Identification, address, and affiliation of any person who provided any opinion(s) found in the report.

4.1.5. Identification of the person and/or organization (client/customer) requesting the examination or report.

4.1.6. General description and unique identifier of all items or places examined in connection with the opinion. A unique identifier system—such as serial numbers, markings, photographs, or another method—must be employed to ensure future, unequivocal identification of samples or exhibits.

4.1.7. Statement, if applicable, that the report is preliminary, amended, or supplementary.

For security reasons and to maintain the confidentiality of personal information, the agency or individual issuing the written report may use a coding system in lieu of using names.

However, if individuals are not identified in the written report, this identification information should be made available on a need-to-know basis.

4.2. Pertinent Information

The report shall contain information that is significant and pertinent to the conclusion(s) reached and the opinion(s) rendered. This pertinent information includes:

4.2.1. Objective of the examination for which the report is issued (e.g., to compare samples, determine provenance of a sample, or reconstruct events).

4.2.2. General examinations conducted, including generic class and type of instrumentation used for examinations or determinations (e.g., elemental analysis by inductively coupled plasma mass spectrometry (ICP-MS), polarized light microscopy, and color determination by visual observation).

4.2.3. Results of the examination (e.g., the two compared samples are indistinguishable in measured properties).

4.2.4. Statement, if applicable, that determinations were made from a replica or rendering, such as a drawing or photograph, purported to represent the actual item or event.

4.2.5. Additional essential facts, assumptions, or information relied upon to form the opinions and conclusions expressed in the report (e.g., the item was dusted with fingerprint powder before it was received for examination). This includes determinations made by others (e.g., another analyst performed the elemental analysis).

4.3. Opinions and Conclusions

It is the responsibility of the examiner to use only significant 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, either in the report or technical notes, 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.

4.4. Signatures

The clear identification and signature of any person actually issuing expert opinion(s) shall appear in the report. A professional seal also may be used if appropriate. Any legal certification required to appear on the document to corroborate its legal status or to ensure that it was prepared in accordance with normal business or government activities is an acceptable addition.

As described in Section 4.1, if a coding system is used in lieu of using individual names for security reasons, signatures need not be included in the report.

4.5. Additional Information

Certain additional information, including the examples listed below, must be maintained by the laboratory. This additional information shall be recorded in the report, attached as

an appendix, or documented in the case records or laboratory files. A statement will be included in the report to indicate the location of the additional information.

4.5.1. Identification, address, and affiliation of any other person who generated data for any opinion(s) found in the report.

4.5.2. Identification, address, and affiliation of any person who reviewed and/or verified the report for accuracy or content.

4.5.3. Date(s) of receipt and disposition of evidence and other chain-of-custody information.

4.5.4. Calibration and quality assurance information.

4.5.5. The data, notes, and observations resulting from the examination.

4.5.6. Uncertainty of the results of measurements.

4.5.7. Citations to references that are relied upon for information to augment the knowledge of the examiner and used to draw conclusions or render opinions.

4.5.8. Documentation of the education, training, and experience that bear upon the examiner's ability to conduct the examination and render the opinion(s) in the particular area of expertise. This may include names and locations of all formal educational institutions attended, the examiner's current and past employers as they pertain to these certifications, and accreditations of the examiner or any other individual or organization who contributed significantly to the data employed for the conclusion(s) or opinion(s). Previous pertinent testimonies also may be documented.

4.6. Appendices

Appendices may be attached to the report. These may contain certain critical information such as tables, graphs, charts, spectra, data, calculations, photos, notes, and other materials as appropriate.

5.0. 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 "physical measurements" or "chemical and optical properties" should not be used without additional explanatory information contained elsewhere in the report.

6.0. Oral Reports

Oral reports should be discouraged in most instances because miscommunication can occur easily and documentation of the communication content is difficult to achieve. In addition, it is not practical for an oral report to contain all of the information listed in Section 4.0. A written report documenting this information shall follow an oral report as soon as practicable.