

Document:
Comment's Deadline:

ASB Standard 172, Standard for Examination of Mechanical Checkwriter Impressions and Machines
11-Jul-22

#	Section	Type of Comment (E)	Comments	Proposed Resolution	Final Resolution
1	Title	E	The title reads incorrectly	Remove the "s" from "Mechanical Checkwriters Impressions" to make "Mechanical Checkwriter Impressions"	Accept
44			Having reviewed the document there are not any procedures or statements with which I would disagree. However I do not have enough experience with mechanical checkwriter machines to make a recommendation on the full document and so I will abstain from voting on the approval of this ballot.		Reject. No corrections requested by commenter
7	all	T	The standard does not require verification of the opinion by a second examiner and does not require blind verification. Will this standard quality assurance measure be addressed in another standard?		Reject. No proposed resolution. This comment is outside the scope of this standard
8	all	T	At various points the document uses conclusions rather than opinions. Opinions should be the term used in all instances.		Partial accept. No proposed resolution. The term used depends on the result of the examination(s) conducted. Some instances of the term "conclusion" were changed to "opinion". The term "conclusion" is appropriate for some results.
9	all	T	At various points the document requires that something be "recorded" or "noted". It does not appear they have a different meaning. Perhaps the term "documented" should be used throughout with suggested best practices for high resolution digital images or other types of documentation where appropriate.		Reject. No proposed resolution. The term "recorded" and "documented" are synonymous. "Noted" is used as a point of observation.
5	overarching comments	T	The document purports to be a standard for a method, not a guide or a practice, and therefore should address precision and bias, error rates or accuracy, reproducibility and repeatability but it does not. Thus, this standard fails to demonstrate that it has scientific or technical merit.		Reject. No proposed resolution. This is a consensus standard not a research or scientific paper. This standard is procedural in nature and does not need to address precision and bias, error rates or accuracy, reproducibility and repeatability.
6	overarching comments	T	The standard addresses two levels of examination 1) identifying class characteristics for which there are reference standards, and 2) identifying random features and assessing whether they are sufficiently similar and of sufficient quantity and quality to for an opinion about whether two or more items share a common source. While the first relies on references, the second is inherently subjective but the standard does not state that the second method is subjective and does not reference any procedures to protect against cognitive bias. A standard for a subjective method that ignores the potential for cognitive bias and makes no effort to include within the procedures for the method procedures to minimize cognitive bias lacks scientific and technical merit.		Reject. No proposed resolution. This is a consensus standard not a research or scientific paper. This standard is procedural in nature and does not need to address precision and bias, error rates or accuracy, reproducibility and repeatability.
26	2	T	Section 2 the absence of any normative references and only one informative reference is very troubling and suggests significant research needs to validate this method.		Reject. No proposed resolution.
37	4.1		The standard requires "competency," but it does not explain how competency is to be established.	Specify how competency should be demonstrated (e.g., knowledge testing? proficiency testing?)	Reject. Competency in forensic document examination is covered under other standards such as training standards and is out of scope of this document.

27	4.1.2	T	While it is helpful to note that "It is critical that the forensic document examiner has a knowledge base that includes the individual parts that comprise the composite checkwriter impression and the mechanics involved in its creation," the standard stops there without setting criteria for demonstrating competency, for example, by requiring competency testing before conducting casework, that the testing encompass the range of problems presented to the laboratory, that the problems be based on known sources and not case work samples, that competency tests and the results be retained, etc. If it is critical, and it is, it needs to be demonstrated before an examiner takes on case work.		Reject. No proposed resolution. Competency in forensic document examination is covered under other standards such as training standards and is out of scope of this document.
38	4.2		The standard lists equipment that may be used in general, but examiners are ostensibly not required to document which equipment was used (and how) in a specific examination.	In Section 4.9 ("Report"), examiners should be required to describe the equipment and settings used (e.g., lighting used, magnification level, etc.) in their report. (Perhaps this is implied -- i.e., in 4.4.3 -- but we feel it should be explicitly stated.)	Reject. Equipment references are adequately addressed in this standard. The contents of the report versus the content of the examination notes is beyond the scope of this standard and may be addressed by laboratory policy.
28	4.2.3, 4.2.4	T	Section 4.2.3 and 4.2.4 in each the statement that "[X] should be recorded" should be changed to "shall be recorded". These are all part of documenting the method and materials.		Accept with modification. "should" statements revised to "shall" and sections modified for clarification.
29	4.2.6	T	"Checkwriter classification reference materials sufficient to aid in the determination of manufacturer, dating information, and model differentiation should be available." The should in this sentence should be replaced with "shall." Without reference materials how is one to reliable assess class characteristics?		Accept. The "should" in 4.2.6 has been changed to "shall"
30	4.3	T	"Considerations and Limitations" - This is where the standard should state that the method of source attribution is inherently subjective and that there is no research establishing the accuracy, reproducibility and repeatability of the method.		Reject. The limitations refer to those encountered while conducting the exam.
31	4.3.3	T	<u>"Consideration shall be given to the possibility that multiple mechanical checkwriters may produce indistinguishable impressions." This is a limitation of the field that should be articulated as such. Because there are no databases that allow for estimates of frequency the possibility that other instruments may produce may produce indistinguishable impressions cannot be dismissed. How many instruments could produce indistinguishable impressions cannot be determined. See American Statistical Association, Position on Statistical Statements for Forensic Evidence, Presented under the guidance of the ASA Forensic Science Advisory Committee, January 2, 2019. https://www.amstat.org/asa/files/pdfs/POL-ForensicScience.pdf</u>		Reject with modification. No proposed resolution. The determination that multiple impressions from different mechanical checkwriters are indistinguishable can only be reached following a comprehensive examination as already set forth in the proposed document. Refer to Section 4.9.2.6. Modifications for clarification was made to 4.3.3.
39	4.3.3		It is good to considered that two checkwriters may produce indistinguishable impressions, but it is unclear exactly when or how that possibility should be considered.	Clarify how and when (i.e., at which stage of the analysis) this possibility should be considered, and how it should inform the conclusion (e.g., should this possibility be acknowledged in the report?).	Reject with modification. The determination that multiple impressions from different mechanical checkwriters are indistinguishable can only be reached following a comprehensive examination as already set forth in the proposed document. Refer to Section 4.9.2.6. Modifications for clarification was made to 4.3.3.

32	4.4 Procedure	T	This section is where the standard should discuss the potential impact of cognitive bias and set forth procedures to minimize exposure to task irrelevant information and for documentation of all communications relating to the facts of the case or the investigation. In addition, procedures should be developed assessing the unknown for suitability and for identification and documentation of class features and random features first. And then doing the same for a known source or for a another unknown. In other words, the standard should set forth a linear process.		Reject. Minimizing the potential impact of cognitive bias is outside the scope of this standard.
40	4.4.1		Communications with the submitter, while sometimes appropriate for purposes of clarification, can inadvertently expose examiners to information that is task-irrelevant and biasing.	The standard should stipulate that analyses shall be based exclusively on task-relevant information (i.e., examiners should strive to avoid task-irrelevant information, whether through conversations with submitters or otherwise).	Accept with modification. "The FDE should strive to avoid exposure to task irrelevant information." was added to 4.4.1.
2	4.4.2; 4.4.6	E	This should be edited for clarity (may be a typo)	Instead of "The FDE may discontinue the procedure at any point..." change it to "The FDE may discontinue this procedure at any point..." The sentence prior to this is talking about initial assessments and this statement appears to be talking about the current document's procedure. Similar content in 4.4.6.	Accept.
3	4.4.3	T	Using "shall" is too restrictive here. Do we expect a FDE to record every ruler, light source (especially if it is ambient) or other minor equipment used?	Just change "shall" to "should" to allow for scenarios where it is not helpful to record the equipment used.	Reject. This information is needed in the case notes at a minimum. 4.4.3 last line states "shall include <i>relevant</i> information,..."
33	4.4.3	T	"The FDE shall perform applicable procedures and contemporaneously record examinations performed and relevant observations in the notes. The results and accompanying notes should have sufficient detail to allow for an independent review and assessment of the conclusions by another FDE. The FDE shall include any relevant information, observations, equipment used, methods, evaluations, and conclusions, opinions, or interpretations." Per the guidance from the LTG please redraft as follows: The FDE shall perform applicable procedures and contemporaneously document examinations performed and relevant observations. The results and accompanying documentation shall have sufficient detail to allow another analyst or scientist, with proper training and experience, to understand and evaluate all the work performed and independently analyze and interpret the data and draw conclusions. The FDE shall include any relevant information, observations, equipment used, methods, evaluations, and conclusions, opinions, or interpretations.		Reject. This is a consensus standard. It is not subject to the guidance of another organization. (LTG?) This standard is not to be used by any other examiners or scientists. It is only to be used by trained FDEs.
41	4.4.3		The placement of the note (i.e., "The remaining procedures in 4.4 need not be performed...") before this section implies that it may not always be applicable to record one's procedures and observations, which should always be required.	Reorganize Section 4.4 as needed to ensure that required elements of the examination are not inadvertently characterized as optional.	Reject. Notes are informational and do not affect the requirements of applicable procedures. Also, any requirements are identified by a shall statement.
4	4.4.4	T	I think we need clarity here in the statement "If not, discontinue the examination."	Changing the phrase to "If not, discontinue the checkwriter examination."	Accept with modification. Last line of 4.4.4 now reads "If not, discontinue these procedures and report accordingly."
10	4.6.4	T	A single known specimen is sufficient for comparison only if there is very little variability among the known specimens that the machine produces for the settings in question. Is that always the case? If not how many specimens should be generated?	Make clear how many specimens should be generated	Reject with modification. 4.6.4 now reads "The FDE shall prepare a known specimen(s) with the settings on the machine as received to document these settings prior to preparing comparable specimens." Refer to 4.7.1 for comparison samples.

11	4.8.1	T	Class characteristics" are not defined in the standard. They should be listed.	List and define class characteristics	Reject. The term "class characteristics" is a general term across forensic science not specific to checkwriter examinations that differs when using the term class characteristics.
12	4.8.3	T	"Limitations of each impression" is unclear. Can the standard be more specific as to what the kinds of limitations might be?	Specify limitations	Reject. Limitations would be case-specific and a comprehensive list would not be possible. They are variable depending on the item(s) submitted for examination and comparison. Refer to 4.3.
13	4.8.4.	T	What factors affect "significance"?	Note which factors affect significance	Reject. Significance would be case-specific and a comprehensive list of significant factors would not be possible. They are variable depending on the item(s) submitted for examination and comparison.
14	4.8.5	T	Does the "as interpreted with" clause in this section imply that knowledge, skill, and ability is not used to "evaluate the significance" in § 4.8.4? Also, this section does not seem to add anything of substance to § 4.8.6, but to the extent that it does, it should be merged with that section.	Merge with 4.8.6 (or delete), and also rewrite to make clear that knowledge, skill & ability is used to evaluate significance	Reject. These are two distinct steps and will remain as written.
15	4.8.6	T	Section 4.6 (Examination of the Checkwriter Machine and Production of Known Specimens) does not contain criteria. It just tells the FDE to examine and record things.	Add criteria	Reject with modification. 4.8.6 now reads "The FDE shall form an opinion for each set of comparisons with respect to the extent that the results of the above procedures support one hypothesis relative to the alternative(s) and report in accordance with the criteria in Section 4.9."
25	4.9 Report	T	Uncertainty must be reported. The conclusion scale adopted here is different source/common source/undetermined. What is the estimated sensitivity and specificity for these conclusions? If these quantities are unknown, that fact should appear in a report.	Make clear that these levels of uncertainty either must be acknowledged as unknown or made clear in the report.	Reject. Refer to 4.9.2.4 which states "The report shall include an explanation of the limiting factors."
34	4.9 Report	T	Has the proposed scale of conclusions contained in this section been validated? If not that should be disclosed.		Reject. This is not a conclusion standard and reporting validation of a proposed scale of conclusions is outside the scope of this standard.
16	4.9.1	T	The first sentence seems superfluous. Conclusions may be reached after appropriate procedures, but they also may be formed after inappropriate ones. The second sentence also is uninformative.	Delete or make clearer what the point of this section is.	Reject. This statement is clear as written. The definition of appropriate is "suitable or proper in the circumstances". The second sentence does clarify the issue.
35	4.9.2	T	Please see the LTG guidance document (approved for internal OSAC distribution and available on request) on report writing for what should be in a report.		Reject. This is an ASB document not an OSAC document.
17	4.9.2.1	T	A "different source" conclusion is not the kind of conclusion the examiner is supposed to make according to § 4.8.6. That section instructs the FDE to form "conclusion for each set of comparisons with respect to the extent that the results of the above procedures support one hypothesis over the alternative(s)" – not to form a conclusion that one or another hypothesis is true.	Rewrite to resolve the conflict.	Reject. A different source conclusion is referenced in 4.8.1 and therefore, 4.8.6 is not applicable in such instances.
18	4.9.2.2	T	"Substantive randomly acquired characteristics" needs a definition. What would a nonsubstantive characteristic be?	Add definition.	Reject. The term is not checkwriter-specific and refers to terms used throughout forensic science disciplines. Substantive and nonsubstantive characteristics would be case-specific.
19	same (ASB Note: we think the commenter meant to write 4.9.2.2)	T	"A conclusion of common source" is inconsistent with the salutary support-based approach of § 4.8.6.	delete or rewrite to resolve conflict	Accept. 4.9.2.2 now reads, "When the examination reveals no significant, inexplicable differences between two or more items, there is agreement in all class characteristics, and there is agreement in substantive randomly acquired characteristics, an opinion of support for the common source hypothesis to the highest confidence is appropriate."

20	same (ASB Note: we think the commenter meant to write 4.9.2.2)	T	What is "the highest confidence level"? 100%?	Clarify what highest confidence level is	Accept with Modification. It is worded this way to allow for the use of the current standard for expressing conclusion (and allow for future standards) so that the language is usable on multiple conclusion scales. The word "level", however, has been removed from 4.9.2.2, 4.9.2.3, and 4.9.2.5
36	4.9.2.2	T	what is the scientific basis for the assertion here "that a conclusion of common source to the highest confidence level possible is appropriate" when there is no basis on which to determine whether another instrument may produce indistinguishable impressions and where there is no data from which to determine how many such instruments might be in the relevant population. "Highest level of confidence" also seems indistinguishable for terms and phrases that are widely understood to be overstatements and without scientific merit, for example 100% certain or zero error rate.		Reject. No proposed Resolution. It is worded this way to account for the multiple conclusion scales used by document examiners. The scientific bases for those opinions should be referenced in those scales and not in this standard. And the last sentence of the commenter's statement is factually inaccurate.
42	4.9.2.2		The criteria for this conclusion allow considerable room for subjectivity insofar as it is unclear what constitutes an "inexplicable" (as opposed to explicable) difference, as well as a "substantive" random characteristic. How is an examiner to determine when either of these is the case? This is particularly worrisome in light of the above-mentioned statement that two different machines can produce indistinguishable marks.	At minimum, examiners should be required to note the presence of "explicable differences" in their reports and provide their justification for not considering them to be exclusionary differences. Ideally, the standard would also provide some guidance in determining what constitutes an explicable difference and what constitutes a substantive random characteristic.	Reject. This standard is meant to be used by trained document examiners and is not to be used as a step-by-step guide to conduct checkwriter examination by untrained individuals.
21	4.9.2.3	T	What makes differences "significant"?	Answer this question in the standard	Reject. This standard is meant to be used by trained document examiners and is not to be used as a step-by-step guide to conduct checkwriter examination by untrained individuals.
22	4.9.2.4	T	What are the criteria for "limited significance" as opposed to "significant"?	Make clear what answer to this question is	Reject. This standard is meant to be used by trained document examiners and is not to be used as a step-by-step guide to conduct checkwriter examination by untrained individuals.
23	4.9.2.5	T	What are the criteria for "significant differences"?	Explain criteria for this	Reject. This standard is meant to be used by trained document examiners and is not to be used as a step-by-step guide to conduct checkwriter examination by untrained individuals.
24	4.9.2.6	T	What are the criteria for "significant characteristics"?	Explain criteria for this	Reject. This standard is meant to be used by trained document examiners and is not to be used as a step-by-step guide to conduct checkwriter examination by untrained individuals.
43			The Bibliography states it is listing "publications" addressed in the standard, but the Vastrick reference is not shown to be a "publication", as the word is commonly understood to mean. If it is a publication, then the journal in which it is published should be listed so the reader can obtain a copy if he/she chooses to do so. As the Vastrick reference is shown, the listing seems conflicting with the above statement that below are "publications". Also, in 2022 listing a source from 1991 seems to open the door for cross examination about an outdated reference and whether any technology has changed related to check writers since 1991, and if so, why are not more current references listed.		Reject. The information contained in the reference is still valid. No alternative resolutions were suggested by commenter. In addition, the comment is not factually correct as the monograph was published and the publication is available to the public free of charge on the ABFDE website. Link has been added.