16-Nov-20

ASB Std 013, Standard for Friction Ridge Examination Conclusions, First Edition

#	Section	Type of Comment (E-	Comments	Proposed Resolution	Final Resolution
7	Title	E		Consider changing the title to “Standard for Friction Ridge Examination Conclusions for Reporting and Testimony.” The current title gives no context for the use of these conclusions.	Reject: Limiting to reporting and testimony would modifiy the scope. This document is establishing the conclusions, how they should be stated, and when they are to be used.
117	Title / Foreword; 3	E	Use of acronyms is sometimes difficult to follow. Some acronyms are used but not defined until later paragraphs (e.g., AAFS and ANFSI in the Title / Foreword).	Define acronyms in their first instance of use. Consider including a list of acronyms in section 3, so reader is not having to search through document to find first instance of their use.	Accept with modification. ASB, AAFS, and ANSI all called out in the Forward
264	title and 4.1	T	Since this document gives options for using different conclusions ('may use' all or some of the conclusions) it is not stating a 'standard' way that conclusions shall be given. It is not even a best practice since it does not indicate which conclusions are optional. This document does not follow the "ASB guide 001" definition of a standard or best practice.	Change 'may' to 'shall' if this is intended to be a 'standard'.	Reject. Examiners are not required to report any conclusion.
229	Foreword	E	The word "practice" should be removed from the first line. It seems out of place.	Remove the word "practice"	Accept with modification. The first paragraph of the forward was deleted as it is duplicative of content in the body of the document.
230	Foreword	T	In the first line, replace "to be reported" with "that may be reached". This will then match what is stated in section 1 and 4.1.	Remove the words "to be reported" and replace them with "that may be reached"	Accept with modification. The first paragraph of the forward was deleted as it is duplicative of content in the body of the document.

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347	Foreword	E	significant revision. In short, the research needed to implement the recommendations as drafted does not exist and the proposal is beyond the capacity of the average examiner to convey accurately to jurors. For the reasons given below we recommend instead three conclusions that eliminate the troublesome labels (identification, inconclusive and exclusion) and that are supported by the current state of the research. In addition, we urge you to require that the method's limitations and error rate be presented contemporaneously with any conclusion to ensure an accurate representation of the conclusion. Over a decade has passed since the National Research Council issued its (now infamous) statement that "[w]ith the exception of nuclear DNA analysis ... no forensic method has been rigorously shown to have the capacity to consistently, and with a high degree of certainty, demonstrate a connection between evidence and a specific individual or source." In that time much has changed (largely, if not exclusively, to the benefit of latent print examiners and stakeholders in the legal community). Published research has demonstrated that properly-trained analysts outperform lay people in the comparison of latent prints, granting empirical support to the legal system's otherwise merely-assumed faith in, and reliance on, the "expertise" of practitioners. See e.g., Thompson, et al., "Expertise in Fingerprint Identification," 58 J. For. Sci. 1519-1530 (2013). The FBI / NOBLIS group (among others) have produced significant, peer-reviewed black and white box studies that, while underscoring the subjectivity of every aspect of latent print analysis and comparison, also highlight relatively low rates of false positives (especially following appropriately unbiased verification). See e.g., Bradford T. Ulery et al., "Accuracy & Reliability of Forensic Latent Fingerprint Decisions," Proceedings of the National Academy of Sciences (2011); Bradford T. Ulery et al., "Repeatability and Reproducibility of Decisions By Latent Print Examiners," Proceedings of the National Academy of Sciences (2012). And many within the discipline have come to terms with the dangers of cognitive bias / circular reasoning and implemented robust systems to prevent potentially misleading influence from task-irrelevant information and exemplar prints. See e.g., OIG, "A Review of the FBI's Progress in Responding to the Recommendations in the Office of the Inspector General Report on the Fingerprint Misidentification in the Brandon Mayfield Case," U.S. Department of Justice, 105-06 (2011); Glenn Langenburg & Christophe Champod, "The GYRO System—A Recommended Approach to More Transparent Documentation," 61 Journal of Forensic Identification 377 (2011). But despite this laudable progress, significant gaps in the foundations of latent print analysis and comparison undeniably remain that warrant caution / restraint in the scope of justifiable conclusions issued by examiners. Although Swofford, Neumann, and others have begun the development of probabilistic models for latent print analysis and comparison, none have yet reached a point where they may claim widespread and fully realized validation, adoption by the community of practitioners, or acceptance by stakeholders and academics. Thus, it remains true that "[w]hile latent print examiners may well be able to exclude the preponderance of the human population as possible sources of a latent print, there is no scientific basis for estimating the number of people who could not be excluded and, consequently, no scientific basis for determining when the pool of possible sources is limited to a single person." American Association for the Advancement of Science, "Forensic Science Assessments: A Quality and Gap Analysis-Latent Fingerprint Examination," Report prepared by William Thompson, John Black, Anil Jain, &	LW NOTE: This is the same as comment #348 - because the comments are so long it copied over mutiple cells. Al comments highlighted in yellow are from the same commenter and linked to each other.	

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			see also National Research Council, "Strengthening Forensic Science in the United States: A Path Forward," National Academies Press, at 139-40 & 188-89 (2009) ("population statistics for fingerprints have not been developed"); Glenn Langenburg, "Scientific Research Supporting the Foundations of Friction Ridge Examinations," in The Fingerprint Sourcebook, at 14-19 (Dept. of Justice 2012) ("From a statistical viewpoint, the scientific foundation for fingerprint individuality is incredibly weak"); Sharath Pankanti et al., "On the Individuality of Fingerprints," 24 IEEE Trans. On Pattern Analysis & Machine Intelligence 1010, 1011 (2002) ("the underlying scientific basis of fingerprint individuality has not been rigorously studied or tested"); C. Neumann et al., "Quantifying the Weight of Evidence from a Forensic Fingerprint Comparison: A New Paradigm," 175 J. Royal Stat. Society 1, 2 (2012) ("the evaluation of the weight of evidence associated with any particular fingerprint comparison lacks both a scientific foundation and transparency"); Sir Anthony Campbell, "The Fingerprint Inquiry Report," APS Group of Scotland, at 605, 728 (2012) ("Examiners presently have insufficient objective evidence by which decisions as to the rarity of characteristics are assessed, and to the extent that such data is available, it is not utilized by examiners"); Organization of Scientific Area Committees, "OSAC Research Needs Assessment Form- Assessing the Sufficiency and Strength of Friction Ridge Features," at 2 (2015) ("Currently there is not a reliable assessment of the discriminating strength of specific friction ridge feature types…not knowing the weight of each feature type prohibits comprehensive standards for friction ridge evaluation decisions"); Working Group on Human Factors in Latent Print Analysis, "Latent Print Examination and Human Factors: Improving the Practice through a Systems Approach," National Institute of Justice at 8, 208 (2012) ("there is a strong need for systematic studies pertaining to the reproducibility and discriminating strength of fingerprint features…there is limited research that would allow a global assessment … of the strength of minutiae configurations"). In fact, while commentators appear to agree that conclusions of identification would require sufficient data to "distinguish a set of details that occurs with a frequency of 1 in 100 billion or less from a set that occurs with a frequency of 1 in 10 billion or more," the bibliography of this proposed standard cites to not a single resource demonstrating that the field of latent print comparison has, since the pronouncements of the NRC, closed that foundational gap. AAAS, "Forensic Science Assessments, A Quality & Gap Analysis," at 63; see also Christophe Champod, "Fingerprint examination: towards more transparency," 7 L., Prob., & Risk 111 (2008). Worse still, distinct issues of examiner skill / performance intersect with and compound the consequences of missing frequency / rarity data. Although researchers from the field have provided stakeholders with reasonable assurance that the general rate of false positives for latent print comparison is low (under one percent in the FBI / NOBLIS study) we know much less regarding examiner performance and the potential for misidentifications in challenging cases involving significant distortion and/or close non-matches, and what we do know is cause for concern. As just two examples: (1) in the FBI / NOBLIS study the five prints (out of a total pool of 744) exhibiting tonal reversal produced five of the six total false positives captured by researchers (across a total of 4083 comparisons), and (2) recent work on close non-matches suggests that such prints may generate false positive rates in the double digits (perhaps as high as 38.2%). See Bradford T. Ulery et al., "Accuracy & Reliability of Forensic Latent Fingerprint Decisions," Proceedings of the National Academy of Sciences (2011); Koehler, Jonathan J. and Liu, Shiquan		

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			Thus, it does the discipline no good to dodge the absence of frequency data (as it appears to attempt in this Standard) by instead focusing in on the reliability of expert performance based on skill, training, and experience. Given the variable success of examiners on prints bearing differing levels of coincidental correspondence, the absence of a statistical foundation for discriminatory value dooms not only identification decisions based on estimates of rarity, but also those based on faith in the performance of subjective expert assessments. And all that is without mentioning that, when we consider the repeatability and reproducibility of identification conclusions (rather than merely the rate of misidentification) the data is even less rosy for latent print examiners, who appear capable, at least on difficult prints, of repeating only 69% of identification conclusions and reproducing only 55%. See Bradford T. Ulery et al., "Repeatability and Reproducibility of Decisions By Latent Print Examiners," Proceedings of the National Academy of Sciences (2012). Any scientifically legitimate standard for conclusions in the latent print field must, as a result of the remaining gaps in data outlined above, reign in the desire of practitioners to substitute their own personal sense of confidence in associating a latent print to a particular individual for actual empirical evidence supporting reliable identification decisions. But that is not to say that the work of latent print examiners has no probative value. As Cedric Neumann recently noted, many defense attorneys have taken into account the substantial body of research thus far produced by the field and responded with more narrowly-focused criticisms. See Cedric Neumann, "Testifying on Fingerprint Examinations in 2019," 69 Journal of Forensic Identification 405 (2019). The problem, in other words, is not that latent print examiners must reshape the basic methodology underlying their practice to satisfy detractors, but rather that they must cease their repeated attempts to salvage a term as troubled as "identification" (which at one point was widely understood and used to imply absolute source attribution, to the exclusion of all others, with a zero error rate) by injecting it with ever-evolving meanings. Doing so does nothing to combat the lack of empirical data supporting associations to a single source, and ignores the substantial misapprehensions which persist among lay people about the reliability and significance of such opinions due to decades of misinformation and overblown claims disseminated by the field. See e.g., Simon A. Cole, "Individualization is dead, long live individualization! Reforms of reporting practices for fingerprint analysis in the United States," 13 Law, Prob., & Risk 117, 144 (2014); H.J. Swofford & J.G. Cino, "Lay Understanding of "Identification," 68 J. Forensic Identification 29 (2018) (study concluding that "71% of potential jurors may be expected to interpret expert testimony containing the word 'identification'…to imply a single source attribution 'to the exclusion of all others'"); Koehler, "Intuitive Error Rate Estimates for the Forensic Sciences," 57 Jurimetrics 153, 162 (2017) (finding that lay people estimate that errors would occur only about once per every 5.5 million cases latent print cases); Brandon Garrett & Gregory Mitchell, "How Jurors Evaluate Fingerprint Evidence: The Relative Importance of Match Language, Method Information, and Error Acknowledgment," 10 J. Empirical Legal Studies, 484, 498 (2011) (noting that proponents of fingerprint evidence "benefit from a widespread assumption among jurors that no two fingerprints are alike" as well, more generally, preconceptions that fingerprint science does not produce errors). At bottom, it is well past time for the latent print discipline to chart a course away from identification conclusions and towards more modest and empirically supportable claims. To that end, OSAC / ASB need not start from scratch when crafting appropriate conclusions. Multiple		

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			As a forensic discipline, latent print comparisons are inextricably tied up with the legal system and thus with communicating results to lay factfinders (judges and juries). The discipline's twin aims when formulating conclusions must therefore be to craft language that succeeds scientifically (by reflecting only empirically derived claims and avoiding overblown or speculative ones) as well as succeeds by properly informing (in other words by communicating results to factfinders in ways that actually allow them to adjust their sense of the weight of evidence). Doing away with the term identification and moderating the strength of claims of association satisfies the first of those aims. See e.g., American Association for the Advancement of Science, "Forensic Science Assessments: A Quality and Gap Analysis-Latent Fingerprint Examination," Report prepared by William Thompson, John Black, Anil Jain, & Joseph Kadane, at 58-67 (2017). And studies suggest that providing information regarding error rates satisfies the second. See Garrett & Mitchell, "How Jurors Evaluate Fingerprint Evidence," at 505. But by retaining source identifications and adopting a likelihood ratio format, Standard 13 fails on both counts. This comment has already addressed the significant problems with "identification" language and claims, but in addition, there are at least four reasons why the ASB should also avoid the likelihood ratio format currently central to Standard 13. Specifically, deploying likelihood ratios will fail as a matter of communication of results because it (1) is likely to confuse rather than robustly educate factfinders, and (2) will result in misstatements and misleading testimony by examiners (which will likely be repeated by attorneys during closing arguments). Additionally, the way in which the ASB has formulated its likelihood ratio approach fails as a matter of scientific legitimacy because it (1) continues to require examiners to overstate (or at least estimate through guesswork) available data on the frequency of arrangements of friction ridge skin / the probability of encountering correspondence randomly, and (2) suggests that examiners should utilize a conclusion framework that has undergone little to no validation or calibration. Beginning with the communication aspect, repeated studies demonstrate, and experts concerned with juror comprehension of statistics agree, that "there is considerable evidence that likelihood ratios are harder to understand and they may be slightly more prone to the prosecutor's fallacy" when compared to other statistical methods of expressing weight of the evidence." John Buckleton & James Curran, "A discussion of the merits of random man not excluded and likelihood ratios," 2 For. Sci. Int'l Genetics 343, 344 (2008); see also Jonathan J. Koehler, "Proving the Case: The Science of DNA: On Conveying the Probative Value of DNA Evidence: Frequencies, Likelihood Ratios, & Error Rates," 67 U. Colo. L. Rev. 859, 878-79 (1996) ("A review of the psychological literature on how people reason with probabilities provides good reason to believe jurors will have trouble understanding and using likelihood ratios…[and] are less likely to engage in sound probabilistic reasoning when provided with information in a conditional probability form than when provided with information in a frequency form"); William C. Thompson & Edward L. Schumann, "Interpretation of Statistical Evidence in Criminal Trials," 11 Law & Hum. Behav. 167 (1987) (concluding after experimentation that likelihood ratios unfairly favor the prosecution when compared to other types of statistical presentations). At bottom, "[p]eople often become confused about the meaning of forensic scientists' statements about conditional probabilities." American Association for the Advancement of Science, "Forensic Science Assessments: A Quality and Gap Analysis-Latent Fingerprint Examination," Report prepared by William Thompson, John Black, Anil Jain, & Joseph Kadane, at		

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			Expecting lay factfinders to navigate these subtle differences, properly incorporate prior odds, and ultimately decide whether or not to adopt the expert's likelihood ratio as their own lays an immense, and unreasonable, burden at the feet of individuals unlikely to come into litigation with any statistical training to assist them. The fact that the Standard utilizes something like verbal equivalents (rather than numerical likelihood ratios) will likely do little to nothing to ameliorate these issues. See e.g., Kristy A. Martire et al., "The Psychology of Interpreting Expert Evaluative Opinions," 45 Australian J. F. Sci. 305 (2013) ("there are large differences between individuals in the attribution of numerical probabilities to the same verbal expressions of uncertainty…although there may be some benefit associated with verbal rather than numerical communication, there is also a substantial potential for miscommunication"); Kristy A. Martire et al., "The Expression and Interpretation of Uncertain Forensic Evidence: Verbal Equivalence, Evidence Strength, and the Weak Evidence Effect," 37 L. & Human Behav. 197, 206 (2013) (calling for evidence based verbal equivalents because "decision makers vary widely in their responses to uncertain forensic science evidence, revising their beliefs in vastly different ways than those predicted by Bayesian calculations"); Swaminathan et al., "Four model variants within a continuous forensic DNA mixture interpretation framework: Effects on evidential inference & reporting," 13(11) PLos ONE (2018) ("Verbal expressions of the LR are prone to misunderstanding and cannot be coherently combined with other evidence"). The issue of factfinder confusion, standing alone, imposes a substantial hurdle to the adoption of a likelihood ratio / weight of the evidence approach even if we assume that testifying experts will be capable of clearly communicating their conclusions, reacting fluently to questioning about Bayesian reasoning, and themselves avoiding the prosecutor's fallacy and other misstatements. But we cannot and should not assume that latent print examiners are, on the whole, prepared to serve as competent guides to factfinders on the treacherous journey through likelihood ratio waters. Historically (and into the present) many (if not a majority) of latent print examiners (1) enter the field without any academic science or mathematics education, (2) receive training by their laboratory that does not include statistics generally or Bayesian reasoning more specifically, and (3) never testify using probability, propositions, or statistics. This likely explains the reluctance of examiners across a plethora of cases to so much as concede that their conclusions of identification are probabilistic in nature, as well as the discipline's long reliance on absolute statements of source attribution. But so too does it counsel against believing that such examiners will be capable of—after a few training sessions or perhaps none at all (given that the current draft of ASB Standard 14, while including mandatory instruction on these topics, grandfathers in examiners who reached competence before its publication)—not just testifying without committing fallacies, but also responding to robust questioning on topics essential to factfinder comprehension and appropriate use of likelihood ratios. In fact, even in the DNA context, where examiners have for years been trained to, and practiced in, testifying using statistics, multiple organizations and likelihood ratios proponents have nevertheless emphasized the difficulties of adopting such a framework, and the need for substantial training to assist practitioners. See e.g., Duncan Taylor et al., "Validating multiplexes for use in conjunction with modern interpretation strategies," 20 For. Sci. Int'l Genetics 6, 16 (2016) ("the switch to likelihood ratios from, say, exclusion probabilities may be one of the more challenging aspects" of transitioning to probabilistic genotyping); P. Gill et al., "DNA Commission of the International		

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348	Foreword	E	See e.g., Norman Fenton et al., "When 'neutral' evidence still has probative value (with implications from the Barry George Case)," 54 Sci. & Justice 274, 275 (2014) (emphasizing that "even the most senior evidence experts have encountered difficulty in formulating relevant hypotheses" critical to the appropriate function of likelihood ratios); Johann Streurer et al., "Communicating accuracy of tests to general practitioners: a controlled study," 324 BMJ 824 (2002) (physicians rarely, only 22% of the time, arrive at correct posterior probabilities when estimating diagnostic value); Penny F. Whiting et al., "How well do health professionals interpret diagnostic information? A systematic review," BMJ Open (2015) (conducting literature review and discovering that in only two of twenty-two studies did doctors make appropriate use of likelihood ratios); Koehler, "Proving the Case: The Science of DNA: On Conveying the Probative Value of DNA Evidence: frequencies, Likelihood Ratios, & Error Rates," 67 U. Colo. L. Rev. at 876 (describing misuse and miscommunication of likelihood ratio evidence by the director of a Texas DNA laboratory); William C. Thompson, "Painting the target around the matching profile: the Texas sharpshooter fallacy in forensic DNA interpretation," 8 L., Prob., & Risk 257, 268-69 (2009). (documenting example of DNA expert misuse or confusion in use of likelihood ratio, essentially DNA expert committing the prosecutor's fallacy and transposing the conditional). There is therefore no reason to believe that, even if factfinders could theoretically be helped to understand likelihood ratios and utilize them appropriately, the average latent print examiner will be able to competently assist them in that endeavor. Of course, communication issues like those just discussed have not yet prevented DNA analysts from shifting into a likelihood ratio approach (though robust litigation challenging that paradigm shift continues across the United States, and should be expected to follow latent print examiners if the ASB leaves Standard 13 substantially unaltered following the public comment period, not to mention that NIST metrologists have persuasively argued against the acceptance and use of likelihood ratios). See Steven P. Lund & Hari Iver, "Likelihood Ratio as Weight of Forensic Evidence: A Closer Look," 122(27) J. Research of Nat'l Ist. Standards & Tech., at 1-2 (2017) ("Because the likelihood ratio is subjective and personal, we find that the proposed framework in which a forensic expert provides a likelihood ratio for others to use in Bayes' equation is unsupported by Bayesian decision theory, which applies only to personal decision making and not to the transfer of information from an expert to a separate decision maker, such as a juror"). But years of necessary research and software design came between that community's decision to move towards likelihood ratios and their actual adoption. See e.g., Duncan Taylor et al., "The interpretation of single source and mixed DNA profiles," 7 For. Sci. Int'l Genetics 516 (2013). Thus, while some in the DNA realm had advocated a shift to likelihood ratios in the 1990s, and the International Society of Forensic Genetics had endorsed them as "the preferred approach to mixture interpretation" in 2006, it was not until after a plethora of papers had been published on the underlying mathematics, and massive studies conducted on the accompanying systems, that the field actually began adopting likelihood ratios. See e.g., P. Gill et al., "DNA Commission of the International Society of Forensic Genetics: Recommendations on the interpretation of mixtures," 160 For. Sci. Int'l 90, 96 (2006); Jo-Anne Bright et al., "Developmental validation of STRmix™, expert software for the interpretation of Forensic DNA profiles," 23 For. Sci. Int'l Genetics 226 (2016). In other words, the adoption of likelihood ratios across a range of sample types in the realm of DNA had to await the emergence	This standard should not invite the complications and confusion inherent to a likelihood ratio approach, reframe the inconclusive category before completing substantial validation and calibration testing of new "support for same source" and "support for different source" conclusions, insist on misleadingly labeling conclusion categories (ie using the word "identification"), or attempt to assign subjective adjectives without empirical backing as summaries for the level of corresponding features or the rarity of such features (ie "strong correspondence" or "overwhelming correspondence"). Thus, the Standard should remove or amend portions of the Foreword, Scope, 3.1, 3.10, 3.17, 3.20, 3.21, 3.23, 3.24, 4, and Annex A to reflect the following source conclusions and related concepts: (1) "The questioned impression (Ex. ?) and the exemplar impressions of XXXX (Ex. ?) display different friction ridge features. The questioned impression could not have been left by XXXX. (2) "The questioned impression (Ex. ?) and the exemplar impressions of XXXX (Ex. ?) display insufficient correspondence or disagreement of friction ridge features to assess whether the questioned impression could have been left by XXXX. (3) "The questioned impression (Ex. ?) and exemplar impression (Ex. ?) display corresponding detail of friction ridge features with no differences that would indicate they were made by different areas of friction ridge skin. There is no way to determine how many other people might have an area of friction ridge skin displaying a similar degree of corresponding detail and no appropriately validated model currently exists to provide a probability of encountering this level of corresponding detail in the friction ridge skin of other random people. But it is my subjective and personal assessment that encountering this level of corresponding detail in the friction ridge skin of another random person would be unusual."Adopting the above conclusions and resisting the urge to unnecessarily label each (by calling them identification, inconclusive, and exclusion) avoids the confusion inherent to likelihood ratios, permits examiners to offer relevant and probative conclusions, and appropriately moderates language to reflect that while particular arrangements of friction ridge features may well be highly variable and discriminating, we cannot yet say with any confidence precisely how rare any specific arrangement might be. While the conclusion that would formerly have been termed exclusion might appear more conclusive and less moderated than the new form of the identification-style conclusion, that approach is appropriate and aligns with the course charted in the DNA field where exclusions are often reported without an accompanying statistic or verbal equivalent. If a latent print examiner has appropriately assessed that the observed differences between two impressions are not explainable (say due to age, or scarring, or distortion), probability and rarity play little to no role: given that fingerprints persist unchanged through life, unexplainable differences warrant a conclusive opinion that an impression showcasing such divergence could not have been left by a particular source. To the extent that concern stems from the fact that, in studies of examiner performance, false negatives generally exceed false positives, that issue can and must be addressed (as further detailed below) by requiring testimony on available error rates. As suggested above, in the place of attempting to summarize the extent of correspondence observed with words like "strong" or "overwhelming" this Standard should instead avoid the subjectivity and ambiguity injected by those words by requiring that examiners simply describe the correspondence or disagreement actually observed. For example an examiner might report: "The questioned impression (Ex. ?) and the exemplar impression (Ex. ?) share sixteen ridge endings and	Reject with modification. These criticisms are all also true of the current 3-conclusion framework. Conclusion language clarified.
362	Foreword	E	change "document establishes"	to "standard presents" or "standard recommends" or "standard proposes" or "standard requires"	Accept with modification. The first paragraph of the forward was deleted as it is duplicative of content in the body of the document.
363	Foreword	E	Unless ASB thinks readers would expect it to publish standards with outdated links at the time of publication, the sentence "All hyperlinks and web addresses shown in this document are current as of the publication date of this standard." is pointless.	Delete what should be taken for granted in a standard released by ASB.	Reject. Boilerplate ASB language

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1	General	T/E	This standard attempts to use the same categorical reporting framework for two vastly different approaches to fingerprint examination. Examiners who rely on traditional methods for comparison and reporting are expected to use a statistical framework that includes language that they would have difficulty explaining, while examiners using a statistical model are not provided with the details needed to employ this methodology. For example, this standard would be more effective for traditional fingerprint examiners if the use of propositions is eliminated from the document. The document only provides a clear case of the data that can be used to formulate one proposition and not both propositions. Traditional fingerprint examiners should not be forced to use probabilistic terminology if only one proposition can be formulated. If the places in which discussions of probability and propositions are removed, the standard is much easier to follow and looming questions pertaining to what constitutes the proposition used for the denominator are eliminated. For examiners using a statistical model, the information which comprises the competing propositions should be easily defined. The document only provides a clear case of the data that can be used to formulate one proposition and not both propositions. In addition, neither group is given proper guidance on the criteria that define the thresholds separating each level of expert opinion. Categorical exclusions are critical for the defense of innocent people and this standard, without clearly defined criteria, may take evidence that previously qualified as an exclusion and distributes it among two categories, “exclusion” and “support for different sources.” This standard serves neither the traditional examiner nor the examiner using a statistical model well due to an overwhelming number of missing details from the document.	This standard would be strengthened by a restructuring, either by: 1) Splitting this document into two documents, one for traditional fingerprint examination and another for examiners using a statistical modeling approach. This approach allows the option of developing different terms for conclusions reached by the different methods. Alternatively, if the same categories are used for both documents, these terms and the accompanying definitions must apply equally well for both documents, with additional context provided in the body of each standard. Each respective standard will provide proper context on how to establish thresholds for each level of expert opinion, and will provide examples of language that can be used to communicate conclusions; or 2) Keeping the standard as one document, separated into two sections for traditional examination and for statistical modeling. The terms and the accompanying definitions that are used must apply equally well for both sections, with additional context stated in each respective section. Each section would define how thresholds for expert level opinion would be established. In the statistical modeling section, a note should be added to address potential misinterpretations that may arise in a Bayesian framework presenting results as “degrees of inclusion” based on software that only generate positive score values or likelihood ratios (LR). In either approach, the examples in the annex need to be more explicit in differentiating between traditional examination and when statistical software is used.	Reject: Since there are no generally accepted and validated statistical models in use, it would not be appropriate to separate this into two documents. The Scope states that this does not cover conclusions derived directly from and entirely dependent upon validated probability models or quantitative processes
2	General	T/E	The need for a fundamental restructuring is exemplified further in Section 4. The requirements for traditional examiners and examiners using a statistical model need to be separated. Defining comparisons and giving conclusions in terms of competing propositions is not suitable for a traditional examiner making subjective decisions based on observed features. Stating that a traditional examiner can use their knowledge, training, and experience to formulate propositions allows an examiner to cite the number of cases they worked on without documenting it. The thresholds that define the five conclusion categories offered by an examiner are not the same for a traditional examiner and one using a statistical model.	Section 4 should be rewritten as two sections within the same or in different documents aimed for examiners who conduct traditional comparisons and examiners who use a statistical model. Greater detail must be provided on how these two different methods allow for the same five conclusions to be reached.	Reject: Since there are no generally accepted and validated statistical models in use, it would not be appropriate to separate the document. The Scope states that this does not cover conclusions derived directly from and entirely dependent upon validated probability models or quantitative processes
3	General	T/E	Both traditional examiners and examiners using a statistical model must convey information about sources and measures of uncertainty of their conclusions.	Regardless of whether this document is revised into two separate documents or remains as one document separated into two sections, the sources of uncertainty in the conclusions for both methods should be explained in what is currently Section 4.	Reject. Section 5 details the limitations of the conclusions.

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4	General	T/E	The definitions for correspondence, disagreement, dissimilarity, and similarity lack proper explanation of how clarity and complexity of the questioned or known print are factored into the observations that contribute to the conclusions that can be offered.	The definitions for complexity and clarity need to be added to the terms and definitions. These terms should be linked to the role they in play in determining correspondence, disagreement, dissimilarity, and similarity. Clarity (clear) is mentioned in several examples in the annex, but complexity is not. If ambiguity (ambiguous) in the examples for "support for difference sources" is meant to convey complexity, that is not clear. General Comment: The definitions provided in section 3 for the conclusion categories are repeated in Section 4.	Reject. Complexity is only used in a parantheical item and the definition of clarity can be found in a standard english dictionary and does not need to be defined in this document. The terminology group will determine if a defintion of complexity will need to be defined
5	General	T/E	The definitions provided in section 3 for the conclusion categories are repeated in Section 4.	Shorten the definitions for the conclusion categories in Section 3 to a single sentence and provide the more extensive discussion for each in Section 4.	Accept
6	General	E	Requiring practitioners to specify details from the print that support their conclusions is an upgrade from the traditional framework. These conclusions should be bolstered by strong documentation standards. Another strength of the document is the "Qualifications and Limitations Section."		This appears to be a comment supporting the document with no action or resolution needed.
157	Overall document	T	The philosophical/scientific/academic basis for the standard is unclear. There are several ways of presenting/communicating/conveying forensic science opinion evidence. The 'best' way to present opinions in different contexts has not been resolved in the literature or tested for efficacy. In other words, the document does not describe the reasoning or the source for the basis of presenting or defining the things that are presented and defined.	Describe the basis, reasoning, and source for the proposed standard.	Reject. Nothing in the ASB Manual requires that a standard contain a basis, reasoning, and source, let alone be resolved in the literature or tested for efficacy.
284	Many places	T	Is 'same source' the same as SI?	If 'same source' is the same as 'source identification' please use the same wording in different places to avoid confusion. If 'same source' is different than 'source identification' then please define 'same source' and add it to the possible conclusions.	Reject. Same Source is not the same as support for same source, and support for same source is not the same as source identification.
285	Many places	T	Is 'different source' the same as an exclusion?	If 'different source' is the same as 'exclusion' please use the same wording in different places to avoid confusion. If 'different source' is different than 'exclusion' then please define 'different source' and add it to the possible conclusions.	Reject. Different source is not the same as support for different source, and support for different source is not the same as source exclusion.
177	0	t	We have commented on core sections of the document, and not on Terms & Definitions or on the informative Annex.	If our proposals for the core sections are accepted, the Terms & Definitions and the informative Annex should be revised accordingly.	Noted.

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349	Scope	E	As indicated in the comments to the foreword and Section 4, the ASB should reject, or at the very least amend the weight-of-evidence approach adopted in this Standard, please refer to those comments and proposed resolutions for recommended changes to this Scope. Additionally, the scope presently specifies that Standard 13 does not cover “conclusions derived directly from and entirely dependent upon validated probability models or quantitative processes.” That caveat does not go far enough. If examiners are using probability models or quantitative processes even to supplement (rather than derive) their conclusions this Standard must either address how to properly do so, or alter its language to reflect that such issues will be addressed in other documents.	Please refer to the proposed resolutions for the Foreword and Section 4. Additionally, amend the first caveat to read “conclusions derived directly from, entirely dependent upon, or supported in any way by validated probability models or quantitative processes.” Otherwise substantially expand this Standard to address how examiners should report conclusions and testify when they have reached a conclusion using standard methods and wish to supplement their opinion with data from probability models or quantitative processes.	Reject: Since there are no generally accepted and validated statistical models in use, it would not be appropriate to separate the document. The Scope states that this does not cover conclusions derived directly from and entirely dependent upon validated probability models or quantitative processes. The proposed resolution is not the intent of this document as the scope is written.
8	1	T/E	The statement that “This standard does not cover……the manner by which examiners arrive at their assessment of the strength or weight of the findings with respect to the source of the questioned impression” is somewhat of a misstatement. Although ACE-V is not mentioned in the standard, how examiners arrive at their assessments is by comparison. The level of correspondence is identified by the presence or absence of specific features, which in turn is used to determine weight or strength of a conclusion. Performing the comparison implies there will be a weighted conclusion. This point is further supported by the language in the annex and the use of weighted scales.	Consider removing the statement “the manner by which examiners arrive at their assessments of strength or weight of the findings with respect to the source of the questioned impression” from the list of what is not included in the scope of the document. While the scales are visually helpful, they should be removed if the aforementioned statement is going to remain in the document.	Reject. The Annex contains examples and 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 is not provided in this document.
9	1	T/E	The statement that “This standard does not cover…documentation of conclusions” is also somewhat misleading in that the standard does discuss the documenting the basis upon which a conclusion opinion is made (see examples in Annex A).	Consider removing the statement or revising to clarify the standard does not cover documentation of the methods of analysis supporting stated conclusions.	Reject. This document does not give requirements for how the documentation of conclusions is to be done.
10	1	T/E		The scope needs to specify if the conclusions presented only apply to comparisons between unknown evidence fingerprints and fingerprints from known individuals.	Reject. The scope already states that the document applies to friction ridge comparison and not further specificity is necessary.
52	1	T	Second statement beginning with "For the purpose…" is redundant. The term 'conclusion' is defined in section 3	remove statement from Section 1	Accept
53	1	T	First bullet starting with "conclusions derived…" is redundant. It is also the manner by which an assessment can be made which is stated in the second bullet of this section	remove first bullet from Section 1	Reject: The first two bullet items are not redundant. They deal with different aspects of friction ridge examination.
54	1	T	bullets are lowercase in this section but bullets in remainder of document are capitalized	capitalize first letter of each bullet in Section 1 for consistency with document	Reject. Not all of the bullets in this section are complete sentences, therefor they are a lower-case list and separated appropriately. Each list is dealt with separately.
115	1	E	"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." There are instances in this document where 'conclusion' is defined (in foreword, and in 3.1), and the definition is slightly different. It would be clearer to define it once only in section 3.	Present this definition in section 3, and as its own definition.	Accept with modification. The second paragraph of the scope has been deleted.

#	Section	Type of Comment (E-	Comments	Proposed Resolution	Final Resolution
116	1	T	This document mentions 'documentation of conclusions' and 'reporting conclusions' but unclear precisely what is meant by these terms.	Clarify what 'documentation of conclusions' refers to, as well as 'reporting conclusions', and when or in what context these processes occur.	Reject. Reporting and documentation are not in the scope of this document. They may be addressed specifically in future documents.
178	1	t	"This standard does not cover the following topics: – conclusions derived directly from and entirely dependent upon validated probability models or quantitative processes; – 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; ... – how an agency or other forensic service provider (FSP) will define or validate the criteria used for selecting source conclusions." The document attempts to present a set of expressions for the conclusion of a forensic interpretation process, but the scope excludes any consideration of the interpretation process itself. Unless one can describe (and provide requirements and recommendations) for the process and criteria by which one arrives at a particular conclusion, the conclusion is meaningless and the process by which it was reached is not transparent. It is a fatal flaw to attempt to write an isolated standard on the expression of conclusions that is divorced from consideration the interpretation process by which the conclusions are reached. Unless the process and criteria by which one arrives at a particular conclusion have been validated, the conclusion is meaningless. Interpretation and validation could be covered in separate, but related, documents. The present document does not cover interpretation or validation, and does not reference another document that covers validation.	Replace the existing document with a document that provides requirements and recommendations for interpretation of observations made on friction-ridge impressions. This should include the expression of conclusions as the result of the interpretation process. Either in the revised document, or in a related document that is referenced in the revised document, provide requirements and recommendations for validation of the interpretation process by which the conclusions are reached. We are unable to provide more explicit proposals because to do so would be to write the revised document.	Reject: The document addresses the scope as it is written and the proposed resolution is beyond the scope of this document. ISO is working on an interpretation document at this time, so the content is not addressed here.
198	1	T	The Scope indicates that the standard does not cover "how an agency or other forensic service provider (FSP) will define or validate the critera used for selecting source conclusions." By expanding the conclusion scale without providing further information, criteria, or guidelines on how they should be applied, there is risk for greater inconsistency and conflict in reported conclusions between intra- and inter-laboratory fingerprint examiners. Moreover, the verification process may require more conflict resolution using the 5 conclusions.	Add criteria or guidelines for the minimum amount of information or data observations required for each of the different source conclusions. Include both qualitative and quantitative requirements in one document and define requirements or guidelines for both. This will promote more consistency and less conflict across those practicing in the friction ridge discipline.	Reject. This is outside of the scope of this document. The criteria will most likely be addressed in a future document.
199	1	T	The Scope indicates "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."	Specify how knowledge, skill, and experience was acquired (ex. extensive and standardized training)	Reject. The paragraph was deleted. Training is being addressed in a different document and is outside the scope of this document.

#	Section	Type of Comment (E-	Comments	Proposed Resolution	Final Resolution
231	1	T	The second paragraph in the scope, "…for the purpose of this document…" should be removed. The definition given for conclusions is unclear. Section 3 - Terms and Definitions states it more clearly. If the purpose of that paragraph is to state that an expert opinion of the conclusions is based on acquired knowledge, skill, and experience of a friction ridge examiner, the way it is written does not clearly get that across.	Remove the second paragraph under section 1. Scope.	Accept
364	1 Scope	E	Shorten the first sentence to	This standard describes how conclusions that may be reached following friction ridge comparisons should be expressed.	Reject. This modification changes the intent of the document.
365	1 Scope	E	Rephrase the second sentence and put the definition in Section 3.	For the purpose of this document, conclusions are opinions as to the source of a mark from friction ridge skin.	Accept with modification. Paragraph deleted.
271	18 occurrences	T	The term strong is used 18 times but not defined. The term is too vague to be useful; it results in a standard without a clear criteria (which is not a usable standard). What is considered 'strong' will most likely be included in a method document, showing this document does not stand on its own and cannot be used until a methodology document is developed.	Hold this document and roll it out with a methodology document that states when to use each conclusion.	Reject. Other documents will be published as they make it through the consensus process and they can then be used together.
55	3	T	definitions are not in alphabetical order	organize Section 3 alphabetically	Accept
56	3	T	the term "ambiguity" is used throughout the document but is not defined	add a definition of "ambiguity" to the document. Definition should read "ambiguity - the presence of external factors that can lead to a misinterpretation of data within a latent and/or known impression."	Reject. Standard English meaning. Only used in an informative example.
57	3	T	use of the word "source" in front of conclusions, exclusion, and identification conflicts with the limitation of not asserting source attributions. The inclusion of the word "source" in front of conclusions, exclusion, and identification is misleading	remove the word "source" from in front of the terms "conclusion", "exclusion", and "identification" throughout entire document	Reject. These terms are defined in TR016
60	3	T	needed - definition for Incomplete (see comments #10 and #11 for additional information and proposed resolution)	define Incomplete in document as "A determination that the observed data in the latent impression cannot be fully compared to an exemplar due to a lack of data present within the exemplar to complete the examination. A conclusion cannot be reached until additional exemplars are submitted for examination	Reject. Only used in an informative example.
118	3	E	Difficult to follow the definitions as they are not correctly alphabetised.	Correctly alphabetise terms and definitions in section 3.	Accept
119	3	E	"For purposes of this document, the following definitions apply." should include colon, not period.	Change to colon at end of sentence, rather than period.	Reject. ASB style is to use period.
120	3	T	Consider defining 'examiner', as this term is used throughout the document but not specifically defined. FSP is specifically defined, and so it seems logical that 'examiner' should also be defined.	Define 'examiner' in section 3.	Accept.
121	3	T	An earlier definition of 'conclusion' (in the Foreword) states mentions that information is "interpreted using acquired knowledge, skill, and experience of a friction ridge examiner." Consider providing definitions for each of these terms in section 3.	Define 'knowledge', 'skills', and 'experience' in section 3.	Reject. Standard English/industry definitions.
337	3	E	The list of Terms and definitions should be in alphabetical order	correctly alphabetize the list of Terms and Definitions	Accept

#	Section	Type of Comment (E-	Comments	Proposed Resolution	Final Resolution
14	3.10	T/E	This is an example of a statement formed in terms of propositions that should be revised. A neutral definition based on observed characteristics should be provided.	Change the definition to: Is the conclusion that the observed data do not provide a sufficient degree of support for one of the four other categorical opinions.	Reject with modification. The proposition framework is appropriate. Definition clarified.
47	3.1	E/T	SDS and SSS are subjective and not objective. Inadequate research to further these conclusions. As evident by the NAS, PCAST, AAAS, et al. the forensic community has been pushing towards a more quantifiable scientific and objective methodology to our discipline. There is no universally agreed upon quantifiable studies to support these additions. There are no universally agreed upon statistical models. Even current research from Dr. Busey is limited in scope with regards to expanded scale and no published research has garnered any serious readership regarding potential influence on jurors. To continue down this subjective approach flies in the face of what had been recommened and instead of advancing the science, crafty wordsmanship with "propositions" or "support" is proving a hasty retreat.	Until further research has been conducted, peer reivewed and universally accepted in the science, to add these conclusions are woefully premature at best; morbidly deceptive at worst.	Reject with modification. These criticisms are all also true of the current 3-conclusion framework. Definition clarified.
48	3.1	E/T	proposition	It's stated under source conclusions. Call it a conclusion. Eliminate "proposition". Unnecessary definition.	Reject with modification. Definition from TR016 is used. Distinction between "conclusion" and "proposition" clarified.
98	3.1	E	Can remove "Is the…"	Replace with "The…"(for consistency with the formatting of other definitions)	Accept
232	3.1	E	First line may sound better reading, "Statements expressed as an opinion…".	Add the word an before opinion	Reject with modification. Omission of "an" is intentional. Definition clarified.
312	3.1	T	In the definition of conclusions/ source conclusions it states "Examiners may offer one of the following conclusions". This implies that all FSPs will be changing their SOPs to reflect the use of all 5 options. This document does not encompass the specific criteria required to reach each conclusion and for some FSPs that criteria may never be met per SOP.	Add to the definition, "per FSP SOPs."	Reject with modification. The requirement is to allow only the 5 specified conclusions, but not to require any FSP to use more than 3. A paragraph was added to section 4.1 to outline the option of using 3 conclusions and how the 5 conclusions would be encompassed. Definition clarified.
350	3.1	E	Please refer to the comments made to the Foreword and Section 4.	Please refer to the proposed resolutions for the Foreword and Section 4.	Reject with modification. These criticisms are all also true of the current 3-conclusion framework. Definition clarified.
366	3.1 conclusion	E	conclusion in general is not defined here.	Replace the definition of "conclusion" with the one proposed above.	Reject with modification. Definition from TR016 is used. Definition clarified.
367	3.1 source conclusions and 3.14	T	There are several problems with 3.1, but read together with 3.14, the definitions loop around without defining anything. Also, stating a categorical scale for conclusions does not define "conclusion."	Define "source conclusion" as a statement about the particular patch of friction ridge skin that produced a mark.	Reject with modification. Definition from TR016 is used. Definition clarified.
122	3.1; Annex A (now Annex B)	T	Unclear precisely what is meant by ‘observed data’ and 'data'. Similiarly, in the figures in the Annex, are the balls with different sizes and colors supposed to represent 'observed data'?	Clarify definitions of 'data' and 'observed data, 'and what the figures in Annex A represent.	Accept. Definition of observed data has been clarified.

#	Section	Type of Comment (E-	Comments	Proposed Resolution	Final Resolution
283	3.2 and 3.18	T	The definition of correspondence is almost 50 words and is very confusing. It appears that the definition states that things are similar, however, the definition of similar says not correspondence and therefore definitions 3.2 and 3.18 conflict. Correspondence appears to be defined to be only be for SI, which means it is indicating a measurement of sufficiency. If this is correct then why not simply use the phrase 'sufficient similarity' instead of 'correspondence'?	Please clarify the definition so that it is understandable and does not conflict with the definition of similarity. If it is indicating sufficiency, this needs to be clarified.	Reject. Correspondence is an accumulation of similarities. It does not mean "sufficiency." The term is now used in more conclusions than just Source Identification.
126	3.3, 3.5	T	The difference between the terms 3.3 disagreement and 3.5 dissimilarity is not clear.	Make the distinction between the terms 'dissimilarity' and 'disagreement' more clear.	Accept. Distinction has been clarified.
12	3.3	T/E	The definition of disagreement is confusing and needs further clarification. What is causing the dissimilarity? What are expected variations? Are expected variations something that would factor into the proposition used for the denominator of the LR? Why aren't expected variations communicated in the examples for comparison in the annex? Also, the use of the term "nonconformity" is unclear here as this term has other meanings in the forensic context.	Clarify what causes a "single dissimilarity that is deemed to be outside of expected variation" and "an accumulation of dissimilarities" and how they are different from one or more dissimilarities that do not result in a disagreement. If this is a matter of clarity or complexity of the impression, that point should be included in the definition. Please define "nonconformity" as it applies in this context.	Reject. Proposed resolution is beyond the scope of a definition.
124	3.3	E	Phrasing is slightly unclear due to punctuation use.	Add semi-colon to separate the two clauses: "A single dissimilarity that is deemed to be outside of expected variations in the appearance of impressions from the same source; or an accumulation of dissimilarities between two impressions resulting in overall nonconformity."	Accept with modification. Sentence has been clarified.
158	3.3	E	The term "disagreement" is defined in Section 3.3 but then appears to be used in a different context in Section 3.20 i.e. "strong disagreement" and "level of disagreement." The same use occurs in Section 4. 2. This use adds ambiguity and inconsistency which should not be present in a standard.	Replace the word "disgreement" in Sections 3.20 and 4.2 with another term.	Reject. Degrees of disagreement can exist. Disagreement Noted requires only disagreement, but Source Exclusion requires strong disagreement.
200	3.3	T	Revise definition for "Examination - Act or process of observing, searching, detecting, recording, prioritizing, collecting, analyzing, measuring, comparing and/or interpreting." What is meant by prioritizing? The definition seems to combine processes for both evidence processing examination and impression methodology examination.	Define prioritizing or make it more clear what this means. Distinguish between which terms are related to evidence processing and which terms refer to the methodology.	Accept with modification. Definition deleted.
319	3.3	T	Including wording of "single dissimilarity" seems out of date vs. only including "accumulation of dissimilarities"	An accumulation of dissimilarities between two impressions that is deemed to be outside of expected variations in the appearance of impressions from the same source resulting in overall nonconformity.	Accept with modification. Word "single"deleted.
58	3.4	T	The term "examination" includes a lot of other terms that conflicts with it's use in the document	simplify definition of "examination" to be "Act or process of observing, interpreting, and comparing data." to comply with it's use in the document	Reject with modification. Definition deleted.
201	3.4	E	A comma is needed between the words "comparing" and "and/or"	insert necessary comma	Reject with modification. Definition deleted.

#	Section	Type of Comment (E-	Comments	Proposed Resolution	Final Resolution
13	3.5	T/E	The definition for dissimilarity needs further clarification. Although the definition states that this term is not to be confused with disagreement, the definitions as written do not make the differences between these two terms clear.	Consider editing the definition to “An observation that two impressions that have a general difference or lack correspondence of friction ridge details and/or features” [Delete the statement “not to be confused with disagreement.”] These additions make it clear that the two impressions are not similar at all.	Accept. Definition of "disagreement" clarified.
125	3.5	E	"Not to be confused with disagreement." Include single quotation marks, and add the section number, to make clear you are referring to a defintion.	Change to "Not to be confused with 'disagreement' " and add "(3.3)" to specify you are referring to the specific definition	Accept
59	3.7	T	examples of friction ridge detail include the terms "macroscopic information" and "microscopic information" which are not standard terms used within the friction ridge discipline and are not used within the document	remove examples of "macroscopic information" and "microscopic information" from document	Accept.
127	3.7	T	No definitions for some of the terms used (Microscopic vs macroscopic detail; 1st/2nd/3rd level details).	Include definitions for terms, or cite relevant document that contains definitions.	Accept with modification. Terms "microscopic" and "macroscopic" have been removed.
202	3.7	E	The words and/or are missing between macroscopic and microscopic information	insert and/or	Reject with modification. Terms "microscopic" and "macroscopic" have been removed.
278	3.7	T	1st Level detail, 2nd Level detail, 3rd Level detail, macroscopic information, microscopic information are not clearly defined and therefore they are not helpful to the definition.	Define 1st Level detail, 2nd Level detail, 3rd Level detail, macroscopic information, microscopic information. Or remove these words as examples.	Accept. Removed.
320	3.7	E	Missing "and" in statement "macroscopic information, microscopic information"	macroscopic information, and microscopic information	Reject with modification. Terms "microscopic" and "macroscopic" have been removed.
128	3.8	T	Defines friction ridge skin as "The skin found on the palms of the hands and soles of the feet." but this should also include fingers and toes.	Specify inclusion of fingers and toes in this definition.	Accept.
203	3.8	E/T	The definition appears to limit FRS to palms and soles, what about fingers and toes	Broaden defintion	Accept.
234	3.8	T	It should read the skin found on the palmar surface of the hands and plantar surface of the feet. The way it currently reads technically excludes the fingers of the hand. If soles of the feet would like to be kept, at a minimum the palmar surface of the hands should be changed to include the fingers.	Change the definition of friction ridge skin to read: The skin found on the palmar surface of the hands and plantar surface of the feet.	Accept.
321	3.8	T	To stay consistent with biological definition, change palms of hands to palmar surface of hands	on the palmar surface of the hands and soles....	Accept.
129	3.9	E	"referred to as latent/questioned(unknown) impressions, or exemplar(known) impressions (refer to those definitions for further clarification)." Should include the section numbers for these definitions, for ease of reference.	Specify the number / position on list where these definitions are found (3.11 and 3.12).	Reject. Style preference.
130	3.9	E	"referred to as latent/questioned(unknown) impressions, or exemplar(known) impressions (refer to those definitions for further clarification)." Ensure these terms match the terms in the subsequent definitions. In section 3.11 the term used is "latent/questioned impression (latent or unknown)"; and in section 3.12 the term used is "exemplar impression (exemplar or known)".	Ensure terms used across definitions are consistent.	Accept.
313	3.9	T	In the definition of impression (friction ridge impression) does not encompass digital images of the fingers, for example when an image has an unknown individual in the process of a criminal act. These types of images are not by contact or transfer, but may be of comparison quality.	Add to the definition, "digital images of friction ridge skin". Or add a definition to encompass this type of image separately or add "usually" to mirror 3.11.	Resolved by changing definition of Questioned Impression. Not all questioned impressions are Friction Ridge Impressions.

#	Section	Type of Comment (E-	Comments	Proposed Resolution	Final Resolution
351	3.10	E	Please refer to the comments made to the Foreword and Section 4.	Please refer to the proposed resolutions for the Foreword and Section 4.	Reject with modification. These criticisms are all also true of the current 3-conclusion framework. Definition clarified.
131	3.10	E	The style of this definition is not consistent with the style of others.	Remove the "is" from beginning of sentence, to match the style / format of the other definitions in the document.	Accept.
280	3.10-	T	The definition of inconclusive refers to propositions in general and not what propositions are under consideration, therefore leaving the definition of inconclusive very unclear.	State the propositions being referred to so the meaning of inconclusive is clear.	Reject with modification. The propositions are not necessarily the same in all cases. Definition clarified.
339	3.10 and 4.4	T	In conversation with examiners and comments from the audience at Reno it seems the biggest resistence to the adoption of these new conclusions seem to stem from the connotations or suggested reference to "Support for Same Source." Perhaps correctly examiners are cautious of testimony sounding like a "possible ID" or "almost an ID" to the jury and this being misleading and prejudicial. To correct these issues I suggest using more transparent different terms that are harder to misinterpret by the layperson. "Inconclusive" also has baggage being used in lots of FSP's across the US with different definitions.	Instead of using EXC << SDS < INC > SSS >> SID I suggest using other titles for the conclusions but the definitions remaining the same. I believe the titles EXC << Disagreement Noted < Incomplete > Correspondence Noted >> SID would be an improvement. Another suggestion could be EXC << Not identified < Undecided > Ridge Detail Consistent >> SID.	Accept with modification.Titles changed.
204	3.11	E	A comma is needed after "typically"	insert necessary comma	Reject with modification. Definition deleted.
42	3.12	T	"Mikrosil" is a proprietary compound	Remove the reference to "mikrosil" for proprietary reasons; Alternatively, refer to "casted prints" as a generic description of the process though since casting is relatively uncommon, you may simply not mention this method and allow it to be covered under the "not limited to" qualification.	Reject with modification. Definition deleted.
99	3.12	E	Punctuation needed after the word "individual" at the end of the 1st sentence	Insert a period after the word "individual"	Reject with modification. Definition deleted.
100	3.12	E	Commas needed after the word "include" and after "to" in second sentence	Insert necessary commas	Reject with modification. Definition deleted.
132	3.12	E	"exemplar impression (exemplar or known): The deliberately recorded images or impressions from the friction ridge skin of an individual Examples may include but are not limited to inked tenprints, inked palm prints, Livescan prints, powder and lift prints, mikrosil, or photographs of friction ridge skin." Livescan prints are mentioned here but are then referred to as Livescan impression (exemplar or known) in 3.13.	Consider consistent use of the terminology relating to Livescan prints/impression.	Accept. Definition of Livescan impressions deleted.
133	3.12	T	Livescan prints/impression is the only example from 3.12 that receives its own definition but it is not mentioned again in the main body of the document (so not clear why a definition of it is really necessary).	Consider removing definition of 'Livescan impression (exemplar or known)'.	Accept.
205	3.12	E	A comma is needed after "Examples may include"	insert necessary comma	Accept.
235	3.12	E	There needs to be a period after the word individual.	Add a period after the word individual.	Accept.
255	3.12	E	Period needed at the end of the first sentence.	Insert necessary period	Accept.
279	3.12	T	This definition is not in alphabetical order	Put in alphabetical order.	Accept.
322	3.12	E	Period needed at end of first sentence.	Add necessary period.	Accept.

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281	3.12 and 3.13	T	(Exemplar and known) in parentheses is confusing. In 3.12 it is repetitive to the main word being defined (maybe this is an i.e.). For 3.13, it appears what is in parentheses is an e.g.	Clarify the meaning of why the words are in parenthesis by adding either e.g. or i.e.	Reject with modification. Definition deleted.
236	3.13	T	The words "in a digital format" at the end seem out of place. It may read better if it read, "An inkless, electronic means of digitally capturing impressions…"	Remove the words "in a digital format" from the end and add the word "digitally" before the word capturing.	Reject with modification. Definition deleted.
15	3.14	T/E	The use of professional judgement by a traditional fingerprint examiner to form propositions seems contrary to prohibiting examiners to cite the number of cases they may have worked on in giving a conclusion. Consider removing “professional judgement” from the definition.	Consider the following definition “an evaluation of observed data and information gathered through the forensic process which results in conclusions being drawn.”	Accept with modification. Definition edited.
101	3.14	E	Punctuation needed at the end of the sentence	Insert a period at the end of the sentence	Reject with modification. Definition edited.
134	3.14	T	"Use of professional judgement to provide conclusions and/or opinions on hypotheses/propositions, based on observed data and information gathered through the forensic process". The inclusion of 'professional' seems irrelevant here, as the document is about expert judgement / interpretation.	Remove the word 'professional'.	Accept with modification. Definition edited.
135	3.14	E	Period is missing.	Add period to the end of the sentence.	Reject with modification. Definition edited.
206	3.14	E	Include a period at end of the definition	insert period	Reject with modification. Definition edited.
237	3.14	E	I don’t believe you need a comma after the word propositions. It doesn’t read clearly with it.	Remove comma after the word propositions.	Reject with modification. Definition edited.
256	3.14	E	Period needed at the end of the sentence.	Insert necessary period	Reject with modification. Definition edited.
16	3.16	E	The term probability is not used in the body of the document. It is found in the scope and the in the definition for probability. This term does not improve the clarity of the standard.	How probability factors into the conclusions given in this document is not intuitive to the reader. The term should be removed from the document if it is not going to be used in the body of the document.	Reject with modification. The term is now used in the document.
34	3.16	T	The definition of probability currently states, Probability is an expression of the chance that a particular event occurs. Probability estimates can be calculated using an appropriate model or assigned by considering a subjective assessment that is based upon observations interpreted using the examiner's experience. Most of us are not using a calculated probability model and the second part of the sentence states that we should consider a subjective assessment based on our expertise. What does this sound like when we mention it in court. How am I suppose to use this with my expertise?	I like the first part of the definition but the second sentence needs to be clearly defined. Something needs to state that an approved model has not been determined yet and how to clearly use probability with the statement of expertise.	Accept with modification. Second sentence deleted.
136	3.16	E	The style of this definition is not consistent with the style of others.	Remove "probability is" from beginning of sentence, to match the style /format of other definitions.	Accept.
137	3.16	E	Definition is slightly unclear due to punctuation use.	Add a comma: "...using an appropriate model, or assigned by considering a subjective assessment..."	Reject with modification.Affected language has been deleted.
172	3.16	T	If this document does not address conclusions derived directly from or entirely dependent upon validated probability models then why is the first part of the definition included?	Remove the portion of the definition which address probability models.	Accept.

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221	3.16	T	probability estimates can be assigned by considering the a subjective assessment . . . based upon observations interpreted using the examiner's experience seems to be going back to "based on my training and experience" which the field has tried hard to move away from	calculation of probability estimates should be based on something tangible that the end user (judge, jury) can see and understand. Since an approved statistical model doesn't currently exist, probability estimates should either not be used or this document should fully explain how the examiner is to determine them based on their experience.	Accept. Reference to probability estimates deleted.
238	3.16	E	The definition is not clear. I believe it may read better if it read "Probability is an expression of the chance that a particular even occurs. Probablity estimates can be calculated using an appropriate model or may be assigned by considering a subjective assessment based upon observations interpreted using the examiner's experience.	Add the word "may be" before assigned. Remove the words "that is" after subjective assessment.	Reject with modification.Affected language has been deleted.
267	3.16	T	The definition of probability assumes a person CAN derive a probability subjectively when there is no means of doing so in this discipline. The best a person can do is guess which is not the same as a subjective probability.	Remove the term probability from this document since practitioners cannot determine a probability.	Reject with modification. Reference to subjective probability has been deleted.
268	3.16	T	The word probability is not used in this document and therefore does not need to be defined.	Remove the definition of probability.	Reject with modification. The term is now used in the document.
323	3.16	T	Inclusion of the option to subjectively assign a probability based on observations using the examiners experience seems to contradict what the goal of using probability models is trying to do - eliminate subjectivity.	Delete "or assigned by considering a subjective assessment that is based upon observations interpreted using the examiner's experience."	Accept.
344	3.16	T	The term "probability" is properly defined here in part - while probability estimates can be calculated, there is no currently validated method of calculating such statistics in the friction ridge discipline. There are a few current attempts at such calculations being tested, but research in the arena has been attempted for over 100 years, dating back to Galton in 1892, with no success to date.	Probability should be removed from the friction ridge discipline altogether until there is an accurate, validated method for determining such statistics. (If/when such a method is developed and validated, the document can easily be revised.)	Reject. Evidence is inherently probabilistic. The FRCB cannot "remove" probability from the discipline.
352	3.16	E	Please refer to the comments made to the Foreword and Section 4.	Please refer to the proposed resolutions for the Foreword and Section 4.	Reject with modification. These criticisms are all also true of the current 3-conclusion framework.
17	3.17	T/E	The last sentence and the example given in this definition need to be relocated to section 4 of this document. The example given for the propositions used in this document appears to be the only set of propositions that can be used by examiners.	Section 4 can be reorganized to address the needs of traditional fingerprint examiners and those using a statistical model separately. The sentence “it is best practice to use exhaustive propositions” can be moved to the section that explains statistical models. That section can also address the following questions: Why is it best practice to use exhaustive propositions? If it is not required to use exhaustive propositions, how does this affect the conclusions stated in this document? If an examiner is giving their opinion how can they give an exhaustive proposition if an exhaustive proposition requires a known truth? The conclusions that can be drawn from exhaustive propositions need to be specified. Lastly, if the example given is the only proposition pair that can be offered that should be made clear. If not, examples of different propositions need to be provided in an annex. The use of different propositions can result in different conclusions. It needs to be clarified if different propositions can be used to come to these same conclusions. There is also the option to create separate documents.	Reject with modification. Acceptable propositions are discussed in section 4.1. The language about exhaustive propositions has been moved to a Noate and is, therefore, informative only.

#	Section	Type of Comment (E-	Comments	Proposed Resolution	Final Resolution
49	3.17	E/T	Propositions (hypotheses) Addition of yet another definition. In two pages you have three definitions to one word?	Simplify. To even the casual reader, this section is confusing. Quite frankly; unnecessary. Also, in science if the positive is true then the inverse should also be true. There is no explaination for this in your definition. For example: If a subject has whorls in all ten fingers and the latent print obtained from the crime scene is clearly a tented arch, there is no way a person with all whorls is leaving a tented arch impression. Common sense, deductive and inductive reasoning and visual acuity and prove this without "support" or a "proposition/hypothesis" So, as such, if a print can be excluded (inverse) then a print can be identified (positive).	Accept. The definition has been simplified.
63	3.17	T	the definition of "proposition" is inaccurate and conflicts with it's use in the document. Propositions and hypotheses are different concepts but the definition implies that they are similar and can be used interchangeably. The definition as written conflicts with the work in the friction ridge discipline as we do not deal with states of nature	reword definition to be in line with how it's used in science and logic and in order to not conflict with document. Proposed wording would be "a conjectural relationship between concepts that is stated in a declarative form. Propositions cannot be tested directly and are instead tested indirectly by examining the relationship between observed data. Propositions are generally arrived at through deductive or inductive reasoning and must be able to be empirically tested through data."	Reject with modification. The definition has been simplified.
64	3.17	T	example given for a proposition conflicts with the stated limitations with Section 5	remove example from document	Reject with modification. The example has been moved to a Note and is, therefore, informative only.
138	3.17	E	The style of this definition is not consistent with the style of others.	Rephrase slightly to match style / format of other definitions: "Statements or hypotheses about the state of nature..."	Accept.
139	3.17	E	Definition is slightly unclear due to punctuation use.	Adjust punctuation for clarity: "For that purpose, propositions have to be mutually exclusive, meaning that one or the other can be true, or neither can be true; and that the evidence logically only should be able to support one of the propositions (unless exactly equivocal)"	Reject with modification. Definition has been rewritten.
207	3.17	T	For example, two mutually exclusive and exhaustive propositions are that person X is the source of the latent print (H1) and that person X is not the source (H2). Wouldn't person X is not the source be H0? Wouldn't the new additional categories (support for same source and support for different source) make this problematic? Are we testing for these too? If so, more hypotheses are needed.	Determine if H0 should be used instead of H2 and if more hypotheses are needed.	Reject with modification. The example has been moved to a Note and is, therefore, informative only.
239	3.17	E	Fix the wording and punctuation in the statement "…or neither can be true and that the evidence, logically, should only be able to support one of the propositions".	Add a comma before and after logically, and switch the words "should" and "only".	Reject with modification. Definition has been rewritten.
269	3.17	T	The definition of mutually exclusive is incorrect. It currently states, "mutually exclusive, meaning that one can be true, the other can be true, or neither can be true". This is incomplete, it does not say whether the two propositions can or cannot both be true.	Add an accurate definition of mutually exclusive.	Accept. Definition has been rewritten.
270	3.17	T	The definition for proposition is including another definition within it, a definition for 'mutually exclusive' should be defined separately.	Add a definition for mutually exclusive.	Accept. Definition has been rewritten.
282	3.17	T	I don't know what an exhaustive proposition is.	Please clarify the intended meaning of 'exhaustive proposition' or use more standard terms so that the meaning is clear.	Accept. That phrase has been deleted.

#	Section	Type of Comment (E-	Comments	Proposed Resolution	Final Resolution
353	3.17	E	As indicated in the comments to the Foreword above, the ASB should abandon its shift to a likelihood ratio / weight-of-the evidence approach, thus eliminating the need for Section 3.17. While it is unlikely to effect the subjective assessment of likelihood ratios and equivalents adopted in this Standard, if the ASB rejects our comments to the Foreword and retains likelihood ratios, it should then amend the language making exhaustive propositions only a "best practice." Bayes Theorum requires the propositions compared by a likelihood ratio to be ***both*** mutually exclusive and mutually exhaustive. *See e.g.* , Norman Fenton *et al.* , "*When 'neutral' evidence still has probative value (with implications from the Barry George Case)* ," 54 Sci. & Justice 274, 275 (2014) ("When the assumption of mutually exclusive and exhaustive hypotheses is either wittingly or unwittingly undermined, the relationship between the LR and the notion of 'probative value' of the evidence can change dramatically); Norman Fenton, Martin Neil, & Daniel Berger, "*Bayes & the Law* ," 3 Ann. Rev. Stat. Appl. 51, 64 (2016) ("The proof of the meaning of probative value … relies both on Bayes' theorem and on the fact that Hp and Hd are mutually exclusive and exhaustive, i.e., are negations of each other"). And this Standard cannot, and should not, do away with the latter requirement for mere convenience sake.	Reject a weight-of-evidence approach and adopt the conclusion framework outlined in the above proposed resolution to the Foreword. If not, amend the language to 3.17 to read: "Propositions (hypotheses) are statements about the state of nature. Propositions are often framed in pairs with the goal of choosing between them. For that purpose, propositions have to be mutually exclusive (both could not simultaneously be true) and mutually exhaustive (both could not simultaneously be false)."	Accept. Language amended.
18	3.18	T/E		The definition for similarity does not provide enough of a distinction to not be confused with correspondence. Similar is used throughout the definition of correspondence. In section 4.1 it reads "Similarities generally provide support for the proposition…". This definition needs further clarity.	Reject. Definitions are clear that correspondence is an accumulation of similarity.
140	3.18	E	Could be clearer that you are referring to a specific definition.	Change to " Not to be confused with 'correspondence' (3.2)" to make clear that it is a specific term, and where it is defined.	Accept.
208	3.18	T	Similarity - An observation that two impressions share a general likeness when comparing an individual feature or detail. Not to be confused with correspondence. What is general likeness and how is that determined?	Define or state how general likeness is determined.	Reject. Out of scope of a definition.
19	3.19	T/E		The definition of source does not work when it is used within other terms in the document (i.e. source exclusion, source conclusion). The examiner is never examining the individual's friction ridge skin directly, they are looking at an impression. Consider editing the definition to "the area of friction ridge skin responsible for an impression left by an individual."	Accept.
141	3.19	E	Could be clearer that you are referring to a specific definition.	Change to "The area of 'friction ridge skin' (3.8) from an individual."	Reject. Unnecessary to use quotation marks in this case.
314	3.19	T	The definition of source, "The area of friction ridge skin from an individual" is not clear what area it may or may not be referring to. An example, one can exclude to the fingers but not necessarily all friction ridge areas of an individual.	Add to the definition, " all or a part of the area of friction ridge skin from an individual."	Accept with modification. Definition edited.
368	3.19	E	FRS is not "from an individual" (unless it has been removed).	Replace "from" with "on" or "of".	Accept

#	Section	Type of Comment (E-	Comments	Proposed Resolution	Final Resolution
11	3.2	T/E		Forensic science has many terms that are used interchangeably but have different meanings depending on the context. Conformity needs to be defined or substituted with a term that is defined in the document.	Reject. "Conformity" is not used in the body of the document. We do not define terms that are only used in definitions.
20	3.20	T/E	This is another example of a statement formed in terms of propositions that should be revised. A neutral definition based on observed characteristics should be provided.	Change the definition to: Source Exclusion. The conclusion that the observed data provide strong support that the two impressions originated from different sources. The rest of 3.20 can be removed but as it is included later in the document.	Accept with modification. Discussion of propositions remains as it provides the logical framework behind the observed data. All sentences after first have been removed.
123	3.2	E	"Observation of pattern type, ridge flow, friction ridge features in sequence, of the same or similar type, in similar relative positions to each other, and/or with the same associated intervening ridge counts." Not really clear what is meant by this sentence in 'Correspondence' definition; it is grammatically confusing. Are these separate factors that can be considered when determining correspondence? If so, add semi-colons etc. to make clear what the separate components are.	Reconsider punctuation use to make meaning clear.	Accept with modification. Definition edited.
209	3.2	E	Insert an "s" after at the end of the word "provide", it should be "provides."	insert s	Reject. "Data" is plural.
210	3.2	T	Source Exclusion - The conclusion that the observed data provide substantially stronger support that the two impressions originated from different sources rather than the same source. There is a strong disagreement present such that the examiner would not expect to see that level of disagreement in an impression from the same source. What is meant by substantially stronger support (one disagreement/discrepancy, two, etc.)?	Define or state how substantially stronger support is determined.	Reject. Out of scope of a definition.
233	3.2	E	The current definition of corresondence seems misworderd. Maybe have it read... Observation of pattern type, ridge flow and friction ridge features, in sequence, of the same or similar type….	Add the word "and" before friction ridge features, and a comma after the word features.	Accept with modification. "And" added." Comma not added.
324	3.2	E	Missing "s" on "provide" in first sentence.	Add necessary "s"	Reject. "Data" is plural.
354	3.20	E	Please refer to the comments made to the Foreword and Section 4.	Please refer to the proposed resolutions for the Foreword and Section 4.	Reject with modification. These criticisms are all also true of the current 3-conclusion framework. Definition clarified.
345	3.20 3.21 4.2 4.6	T	To define something as "substantially stronger" than something else implies that there is some manner of quantifying the value of it. In the friction ridge discipline, there is no method or ability to quantify the strength of corresponding ridge detail, which means we are basically trading one subjective statement for another, slightly more confusing (to a lay person) subjective statement. This lends nothing of benefit to the science. As a practitioner in this field for several years, I can say that when I come to the conclusion of "identification" or "exclusion" it is because I am confident in that conclusion - it is not because I think or it could be an identification/exclusion. By implementing such conclusions involving "support for a proposition" we are relaying to a lay person that we are not entirely confident in our conclusion, in which case the question becomes "why are even bothering?"	Remove the terms "substantially strong support for" - the definition of "source identification" should remain a conclusion by the examiner, based on the observed friction ridge details, that the two impressions originated from the same source. Likewise, the definition for "source exclusion" should remain a conclusion by the examiner, based on the observed friction ridge details, that the two impressions did not originate from the same source.	Reject. Proposed definitions have benefit of not overstating value of evidence.

#	Section	Type of Comment (E-	Comments	Proposed Resolution	Final Resolution
315	3.20, 3.21, 3.23 & 3.24	T	The definitions in these four sections all mention source, but the source is implied to be all area of friction ridge skin from 3.19.	No action needed if the addition above to 3.19 is made. If not add to the definitions, "source should be specified and may include all or part of the individual's friction ridge skin."	No action needed. See resolution of comment #314
21	3.21	T/E	The term Source Identification should not be used.	Change to Strong Support for Same Source. The conclusion that the observed data provide strong support that the two impressions originated from the same source. The rest of 3.21 can be removed but as it is included later in the document.	Reject. FRCB consensus is to continue to use terms "source identification" and "source exclusion."
102	3.21	E	Can remove "Source identification is the…" as an introductory clause from the 1st sentence	Replace with "The…" (for consistency with the formatting of other definitions)	Accept.
142	3.21	E	The style of this definition is not consistent with the style of others.	Remove "Source identification is" from beginning of sentence, to match the style / format of other definitions.	Accept.
211	3.21	T	Source Identification - Source identification is the conclusion that the observed data provides substantially stronger support that the two impressions originated from the same source rather than different sources. There is strong correspondence present such that the examiner would not expect to see the same arrangement of details repeated in an impression from another source. What is mean by substantially stronger support (8, 9, 10 matching minutiae)?	Define or state how substantially stronger support is determined.	Reject. Out of scope of a definition.
240	3.21	T	The wording "substaintially stronger support that the two impressions originated from the same source rather than different sources." allows for some degree of disagreement meaning that there may be support for different sources just at a significantly lower level. In an identification, that should not be the case. All of the other source concusions may have varying "support" but the source identification should not.	Remove the words "substantially stronger"	Reject. There is always some support for the alternative hypothesis.
355	3.21	E	Please refer to the comments made to the Foreword and Section 4.	Please refer to the proposed resolutions for the Foreword and Section 4.	Reject with modification. These criticisms are all also true of the current 3-conclusion framework. Definition clarified.
103	3.22	E	Punctuation needed at the end of the sentence	Insert a period at the end of the sentence	Reject with modification. Definition deleted.
143	3.22	E	Period is missing.	Add period to end of the sentence.	Reject with modification. Definition deleted.
241	3.22	E	A period needs to be added after the word deposited.	Add a period after the word desposited.	Reject with modification. Definition deleted.
257	3.22	E	Period needed at the end of the sentence.	Insert necessary period	Reject with modification. Definition deleted.
22	3.23	T/E	This is another example of a statement formed in terms of propositions that should be revised. A neutral definition based on observed characteristics should be provided.	Change the definition to: Support for Different Sources. Support for different sources is the conclusion that the observed data provide support that the impressions originated from different sources; however, there is insufficient support for a Source Exclusion. The rest of 3.22 can be removed but as it is included later in the document.	Accept with modification. Discussion of propositions remains as it provides the logical framework behind the observed data. All sentences after first have been removed.
104	3.23	E	Can remove "Support for different sources is the…" as an introductory clause from the 1st sentence	Replace with "The…" (for consistency with the formatting of other definitions)	Accept
105	3.23	E	Can add the word "of" between the words "degree" and "support" in last sentence	Insert "of" so that last sentence ends, "…degree of support."	Reject with modification. Sentence deleted.
144	3.23	T	Meaning of terms “substantially stronger support” and "provides more support" is unclear	Make it clear how you are quantifying these terms / what you mean by these terms.	Reject. "Substantially stronger support" is not equivalent to, and greater than, "more support."

#	Section	Type of Comment (E-	Comments	Proposed Resolution	Final Resolution
145	3.23	E	The style of this definition is not consistent with the style of others; and inconsistent phrasing between terms.	Remove "Support for different sources is" from beginning of sentence, to match the style / format of other definitions. Rephrase this section (or sections 3.20 and 3.21) so that they have consistent phrasing. Either all of these sections should say "support for the proposition that...", or they should all say "support that".	Accept
146	3.23	T	"Support for different sources is the conclusion that the observed data provides 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. There are observed dissimilarities between the impressions and a lack of correspondence present. The degree of support may range from limited to strong or similar descriptors of the degree support." Inconsistencies across the definitions. If "provide substantially stronger support" (from 3.20 and 3.21) is being used to mean the same thing as "provides more support", then rephrase so these definitions are all consistent.	Ensure terms and phrasing used across definitions are consistent.	Reject. "Substantially stronger support" is not equivalent to, and greater than, "more support."
147	3.23	E	Definition is slightly unclear due to punctuation use.	Adjust punctuation: "The degree of support may range from 'limited' to 'strong', or include similar descriptors of the degree of support."	Reject with modification. Sentence deleted.
222	3.23	T	observed data provides more support . . . Degree of support may range from limited to strong; this seems extremely arbitrary. How are the different degrees explained?	How the degrees of support are determined should be clearly explained? Where's the line between limited and moderate support? It should be explained in a way that is transparent and that the end user can understand. The examples in the annex do not provide that.	Reject with modification. Out of scope of a definition.Language about degrees of support has been deleted. The Annex has been edited to provide a clearer explanation.
242	3.23	T	When would there be insufficient support for a source exclusion if there are observed dissimilarities and a lack of correspondence? If this source conclusion is included to encompace those agencies or examiners that require a core or delta to be present to report an exlusion, then maybe rewording it to be make the threshold between source exclusion and support for different source clearer.	Reword/redefine support for different source conclusion.	Reject. Out of scope of a definition.
356	3.23	E	Please refer to the comments made to the Foreword and Section 4.	Please refer to the proposed resolutions for the Foreword and Section 4.	Reject with modification. These criticisms are all also true of the current 3-conclusion framework. Definition clarified.

#	Section	Type of Comment (E-	Comments	Proposed Resolution	Final Resolution
346	3.23 3.24 4.3 4.5	T	Both "support for same source" and "support for different sources" are essentially stating exactly what "inconclusive" states - that there is not enough information available in the impressions for the examiner to be confident in concluding the they did (identification) or did not (exclusion) originate from the same source. Why does there need to be another option in between the standard 3 conclusions? If the examiner cannot provide the detective with a confident conclusion of identification or exclusion, then there is no benefit to the case or to the justice system in providing a named individual with a conclusion that is basically stating (especially to the layperson in the jury) "it could be, but I'm not quite sure" or "it might not be, but I'm not quite sure". Furthermore, since the initial suggestion of these 5 conclusions, some friction ridge examiners - including myself - have taken it upon themselves to query the public (including lawyers, officers, and laypersons), asking them their interpretations of these conclusions. The overwhelming majority of responses indicated that there was no comprehension of the differences between "support for source identification," "inconclusive" and "support for source exclusion." Additional feedback also included severe confusion as to what these conclusions mean, and what action can be taken based on their use. The bottom line across the board, however, was that if the examiner is not sure, why can't s/he just conclude that the result is "inconclusive" as opposed to muddying up the verbiage and causing further confusion?! Some additional information to consider: Using these options, especially when there are many Friction Ridge Examiners that are not in agreement with the five possible results conclusion, will be detrimental to casework. This can be ethical line that many Examiners will not be able to agree with, especially during verifications and technical reviews. Even if the Examiner used the conclusion “support for same source” or “support for different source” for some of the latent prints in an examination, the verifier/reviewer may not be able to agree with this outcome because it is a	The options to conclude "support for same source" and "support for different sources" should be omitted entirely. Adherence to the 3-conclusion option should be made standard, with language that supports the concept of examiner confidence.	Reject with modification. Titles of the 2 intermediate conclusions have been changed to "inconclusive with . . ."
50	3.23 ,3.24, 4.3, 4.5	E/T	See above comments for 3.1	See above comments for 3.1 Further, "Strong/Stronger" and "Weak/Weaker" are subjective and not quantifiable.	Reject with modification. These criticisms are all also true of the current 3-conclusion framework. Definition clarified.
65	3.23 and 3.24	T	SDS and SSS are not conclusions. They are examples of Inconclusive conclusions and should be stated as such so as not to be misleading or misused to imply a higher degree or conformity/nonconformity	remove as separate definitions and include as examples of Inconclusive conclusions	Reject with modification. Titles of the 2 intermediate conclusions have been changed to "inconclusive with . . ."
325	3.23 and 3.24	T	The degrees of support range we are being asked to use is not defined nor explained enough to be able to use accurately and appropriately based on the information in this document. This will lead to an even larger variety of conclusion support wording than we already encounter in the discipline.	Propose a scale and/or definitions of degrees of support and what they mean as related to each source conclusion.	Reject with modification. Out of scope of a definition. Language about degrees of support has been deleted.

#	Section	Type of Comment (E-	Comments	Proposed Resolution	Final Resolution
338	3.23 and 4.3	T	In conversation with examiners and comments from the audience at Reno it seems the biggest resistence to the adoption of these new conclusions seem to stem from the connotations or suggested reference to "Support for Same Source." Perhaps correctly examiners are cautious of testimony sounding like a "possible ID" or "almost an ID" to the jury and this being misleading and prejudicial. To correct these issues I suggest using more transparent different terms that are harder to misinterpret by the layperson. "Inconclusive" also has baggage being used in lots of FSP's across the US with different definitions.	Instead of using EXC << SDS < INC > SSS >> SID I suggest using other titles for the conclusions but the definitions remaining the same. I believe the titles EXC << Disagreement Noted < Incomplete > Correspondence Noted >> SID would be an improvement. Another suggestion could be EXC << Not identified < Undecided > Ridge Detail Consistent >> SID.	Accept with modification.Titles changed.
296	3.23, 3.24, 4.3	T	The degree of support may range from limited to strong or similar descriptors of the degree of support.	I AM in favor of the 5 conclusion scale. I am NOT in favor of breaking down each of the proposed 5 conclusions to "limited/strong" ect. at this time. Please give the community time to adjust to the 5 conclusion scale without putting that mandate on them - If ASB keeps this please change to FSP may elect to further define the degree of suport ranging from limited to strong or similar descriptors of the degree of support."	Reject. It is essential to offer the degree of support.
23	3.24	T/E	This is another example of a statement formed in terms of propositions that should be revised. A neutral definition based on observed characteristics should be provided.	Change the definition to: Support for Same Source. Support for different sources is the conclusion that the observed data provide support that the impressions originated from the same source. The rest of 3.24 can be removed but as it is included later in the document.	Accept with modification. Discussion of propositions remains as it provides the logical framework behind the observed data. All sentences after first have been removed.
106	3.24	E	Can remove "Support for same sources is the…" as an introductory clause from the 1st sentence	Replace with "The…" (for consistency with the formatting of other definitions)	Accept
243	3.24	T	If there is insufficient support for a source identification, then that would mean the latent should have been deemed no value, or that it needs to be inconclusive whether it is due to insufficient support for either an identification or exclusion or that there is a need for better knowns. Giving this conclusion does not provide the investigation with any more information than a no value print or inconclusive conclusion. This conclusion is addressing an issue that should have been addressed in the analysis phase when reaching value determinations and/or opens the agency up to providing investigative leads which should be agency dependant and not a accepted standard on conclusions for the discipline.	Remove the support for same source conclusion.	Reject with modification. Titles of the 2 intermediate conclusions have been changed to "inconclusive with . . ."
272	3.24	T	The phrase SSS is highly misleading. The term is being used to mean 'consistent with another item' however the term SSS is swaying others to believe consistency implies an association is likely. This is not true and is extremely biasing.	Change the phrase SSS to be 'consistency exists' (and then state the amount of consistency).	Accept with modification. Titles of the 2 intermediate conclusions have been changed to "inconclusive with . . ."
357	3.24	E	Please refer to the comments made to the Foreword and Section 4.	Please refer to the proposed resolutions for the Foreword and Section 4.	Reject with modification. These criticisms are all also true of the current 3-conclusion framework. Definition clarified.

#	Section	Type of Comment (E-	Comments	Proposed Resolution	Final Resolution
340	3.24 and 4.5	T	In conversation with examiners and comments from the audience at Reno it seems the biggest resistence to the adoption of these new conclusions seem to stem from the connotations or suggested reference to "Support for Same Source." Perhaps correctly examiners are cautious of testimony sounding like a "possible ID" or "almost an ID" to the jury and this being misleading and prejudicial. To correct these issues I suggest using more transparent different terms that are harder to misinterpret by the layperson. "Inconclusive" also has baggage being used in lots of FSP's across the US with different definitions.	Instead of using EXC << SDS < INC > SSS >> SID I suggest using other titles for the conclusions but the definitions remaining the same. I believe the titles EXC << Disagreement Noted < Incomplete > Correspondence Noted >> SID would be an improvement. Another suggestion could be EXC << Not identified < Undecided > Ridge Detail Consistent >> SID.	Accept with modification.Titles changed.
194	4	T	The five different source conclusions is dangerous. Undue weight can be given to a finding of "Support for Same Source or Support for Different Source Conclusions". There are a lot of dangerously close prints that have information that would preclude a "Same Source Conclusion" under the current standard, that under the new standard would be presented as having some agreement. Forensic Scientists have an obligation to not present information that could be misleading or insufficent for a finding as a possible fact. The five diffrent source conclusions weaken Same Source and the Source Exslusions Conclsions . If Forensic Scientists can not be depended on to be able to be defenitve, if given sufficent information, what is the point of having the examination done.	Leave the current standard of three different source conclusions, Same Source, Inconclusive and Source Exclusion.	Reject with modification. Titles of the 2 intermediate conclusions have been changed to "inconclusive with . . ."
326	4	T	Where are these statements expected to be listed? Report, evaluation documentation in case file, both places? Do we have the ability to abbreviate and include this information partially in the report and partially in the supporting documentation in the case file? The amount of language included in these conclusions is going to lead to confusion by our customers who already struggle with understanding some of the most recent SWGFAST recommended conclusions.	Clarify where these conclusions are to be listed (report or supporting documentation) and whether an abbreviated version of a conclusion can be provided in a report and the full conclusion provided in supporting documentation.	Reject. Out of scope of document. See Reporting Results document.

#	Section	Type of Comment (E-	Comments	Proposed Resolution	Final Resolution
358	4	E	If the ASB remains unconvinced by our comments above to the Foreword, and chooses to instead retain the likelihood ratio / weight of the evidence approach adopted thus far in Standard 13, it must, at minimum, make substantial changes to the document in order to correct the ways that the Standard currently waters down / ignores concepts and concerns central to deploying likelihood ratios in a manner that enjoys widespread acceptance among forensic scientists, statisticians, and other experts in metrology. Specifically, the ASB must amend Standard 13 to (1) correct its perverse fusion of categorical and weight-of-evidence frameworks, and (2) require examiners to provide more robust contextualizing information for the conclusions they offer. Of these, the first is perhaps the greatest source of our dissatisfaction with this Standard as written. Our comments to the Foreword have already demonstrated in great detail that the latent print discipline presently lacks the frequency and variability data necessary to permit examiners to opine, without speculation, that they "would not expect to see the same arrangement of details repeated in an impression from another source," and we will not rehash those concerns again. But adopting a likelihood ratio approach actually aggravates the problems with overblown identification statements rather than charting a path of reform. At bottom, the use of likelihood ratios does not sit at all comfortably with the deployment of categorical conclusions. *See e.g.,* Swaminathan *et al.* , *"Four model variants within a continuous forensic DNA mixture interpretation framework: Effects on evidential inference & reporting* ," 13(11) PLos ONE (2018) ("We note that categorizing a continuous estimate, such as the LR, into bins has not acquired full consensus in the scientific literature"). In fact, utilizing such an approach is specifically designed to avoid binary thinking and arbitrary decision thresholds. *See e.g.,* Michael D. Coble & Jo-Anne Bright, *"Probabilistic genotyping software: an overview* ," 38 For. Sci. Int'l Genetics 220 (2019). Thus, the ASB was only partially correct in saying, as part of Section 4.1, that "it may be ideal to report conclusions in terms of the weight of the evidence alone." In the context of deploying propositions and making use of a likelihood ratio-style framework, reporting conclusions in terms of weight of the evidence rather than categorically, is not just ideal, it is both vital and possible. As the AAAS report points out, the numerous European forensic networks, from which the ASB clearly drew inspiration, do not separate out "source identification" conclusions into a stand-alone category; instead, examiners from top to bottom simply provide factfinders with a sense of the weight of the evidence (whether numerically or fusing verbal equivalents). *See "Forensic Science Assessments: A Quality and Gap Analysis-Latent Fingerprint Examination* ," Report prepared by William Thompson, John Black, Anil Jain, & Joseph Kadane, at 65-66 (2017). And, despite the almost unimaginably massive likelihood ratios possible in the realm of DNA analysis (soaring above even the octillions and nonillions), even that field has refused to establish some arbitrary point at which the evidence becomes strong enough to justify a categorical match conclusion. *See e.g.,* Scientific Working Group on DNA Analysis Methods, "Recommendations of the SWGDAM Ad Hoc Working Group on reporting Genotyping Results Reported as Likelihood ratios," (2019). And so we reach the rub: the evidence discussed in our comments to the Foreword clearly demonstrates that no scientifically credible justification exists for separating out "source identification" conclusions, and the examples set in Europe and now by American DNA analysts show that neither does any practical bar exist. But the example set by DNA analysts actually has more work to do, because it clearly showcases the absurdity and the very practical danger of melding a weight of the evidence approach with categorical identification statements. Imagine a case involving both DNA and latent print analysis (say testing of blood found on a bedsheet and a latent print fund on a window believed to be the point of entry for a home invasion). Given the source of the DNA evidence we might expect something close to a robust, single-source profile, and thus a likelihood ratio in the septillions or more. Even assuming that, given the medium of glass, the latent print developed allowed the analyst to uncover numerous friction ridge features in common, and thus achieve a reliable comparison that could fairly fall within the bounds of the error rates from the FBI / NOBLIS study, presenting a conclusion of "source identification" in this context would surely mislead a jury and unfairly prejudice the defendant. Specifically, the DNA analyst (despite benefiting from a massive, empirically derived, and rigorously tested likelihood ratio) would report nothing stronger than that their "analysis provides very strong support for the proposition that [the Defendant] is a contributor to the DNA" from the bedsheet. The latent print analyst, in contrast (and despite lacking equivalent frequency data), would somehow nonetheless report a conclusion above and beyond that offered from DNA analysis. In fact, one could imagine a line of	Pursuant to the accompanying comments to Section 4, the ASB should amend Standard 13 (specifically the Foreword, 3.1, 3.4, 4.1, 4.6, and Annex A) to remove the categorical conclusion of "Source identification." Instead examiners should be permitted to testify at most that: "The observed data provides strong support for the proposition that the impressions originated from the same source rather than different sources," and that conclusion should be accompanied by the same caveats regarding frequency data and error rates outlined in our proposed resolution to the Foreword. The ASB should also delay the roll out of "support for same source" and "support for different source" conclusions until the discipline has produced data regarding the reliability of such conclusions. Finally, the Standard should require examiners to testify, per our comments, to information that allows jurors to evaluate the fitness of a conclusion and develop their own personal likelihood ratio (including, if the ASB chooses to retain support for same source" and "support for different source") that absolutely no data is available to support the reliability of those conclusions, which have never undergone testing of any kind.	Reject with modification. Titles of the 2 intermediate conclusions have been changed to "inconclusive with . . ."
307	4.1, 4.0 in general	T	May use statistical or probabilistic systems is meaningless at this point in time. Does this mean FRStats or Xena? Could it mean an 8 point standard versus a 12-point standard? Until a published, peer-reviewed, validated, and accepted "probablistic system" has been recognized, it should not be left wide open to interpretation.	Remove this section and leave in place the three-bin scheme that has been used and recognized as good science for the past century, while encouraging research, validation, and publication of a five-bin standard to replace it. Otherwise, this amounts to little more than a purely subjective "Identification, maybeso, can't tell, maybeno, exclusion" personal examiner system of bins.	Reject with modification. Titles of the 2 intermediate conclusions have been changed to "inconclusive with . . ."
369	4.1 first sentence	T	Without a definition of "weight of evidence alone," this sentence may not be intelligible to a large number of practitioners. What is the justification for recommending what is admittedly not the best thing to do?	Provide some justification for adopting this categorical scale that mixes statements of beliefs in the truth of hypotheses with statements of evidentiary support for the hypotheses. Clarify the difference.	Reject with modification. Justification for the standard is outside the scope of the document. The scale consistes of statements of belifs in the truth of hypotheses based on evidentiary support for the hypotheses. Sentence deleted.
370	4.1 first sentence	E	change "a categorical reporting framework" to	categories for reporting a source conclusion rather than categories for the weight of the evidence	Reject with modification. Sentence deleted.
24	4.1	T/E		The opening paragraph of this section would benefit from a simplifying statement. Consider the following edit "This document defines a verbal scale for a categorical reporting framework."	Reject. First sentence of paragraph deleted, and FRCB is comfortable with current opening sentence.

#	Section	Type of Comment (E-	Comments	Proposed Resolution	Final Resolution
25	4.1	T/E		The 2nd paragraph can be rewritten to take out the terms “relative support” and the discussion of propositions.	Accept with modification. "relative support" removed and sentenced revised for clarity. Discussion of propositions remains as it provides the logical framework behind the observed data.
26	4.1	T/E		Can you provide clarity on what is meant by knowledge, training and experience to evaluate how much support the observed similarities or dissimilarities provide for one proposition over the other? That can be interpreted as knowledge, training and experience acting as the proposition in the denominator. While the standard states that knowledge, training, and experience cannot be articulated in the conclusion, the standard is not explaining where and how this is factored into the formulation of propositions. Additional explanation of how this information is factored into decision-making is needed.	Reject. This is outside the scope of this document and will be covered in the Standard for Examination and the BPR for Comparison and Evaluation when discussing interpretation. These are separate documents and will be released when they are through the consensus process.
27	4.1	E	The following statements seem contradictory “Conclusions derived directly from and entirely dependent upon validated probability models or quantitative processes;” and “Each one of these “slices” or delineations between the categories is as a result of a threshold being used or interpreted either by the examiner or by some probabilistic model.”	Consider removing the first statement from the scope of the document.	Reject with modification: The Scope states that this does not cover conclusions derived directly from and entirely dependent upon validated probability models or quantitative processes. The last sentence of 4.1 was revised to be consistent with the statement in the scope.
43	4.1	T	"The FSP shall only select one of these conclusions, and only as written and described in 4.2 through 4.6." This statement is confusing because the FSP does not produce conclusions. Did you mean to say the "Examiner shall only select"?	Recommend replacing "FSP" with "examiner"	Accept
44	4.1	T	Within numerous discussions in the FRCB, a number of members stated their support for any given FSP to administratively choose whether to adopt all five conclusions or to adopt only three of the conclusions (effectively consolidating the middle three under the INC decision). This administrative flexibility could allow for a smoother transition to the new conclusion wording and allow time for adjustment and research into the additional conclusion categories for those that need more time.	Recommend that we add a "Note" that while the standard is 5 conclusions, a FSP may choose to adopt a subset of the conclusions provided that the conclusion wording, qualifications, and limitations are not changed.	Reject with modification. Because the 2 intermediate conclusions have been renamed "inconclusive with . . . ," this is not necessary.
51	4.1	E/T	Graphical Representation of source conclusions	REMOVAL AT ONCE. This is deceptive and misleading. The graphic purports that the vast majority of conclusions (other than Source EXC, Source ID or Incl) are SDS and SSS. There is NO research that proves this. In the 100+ years of combined comparison experience with myself and my colleagues this graphic statement is a fallacy. Until peer reviewed research is avalible and universally accepted, this is dangerous!	Reject with modification. The image is intended to be a visual aid of source conclusions and is not intended to indicicate that any set of conclusions are the vast majority. Figure and title revised for clarification
66	4.1	T	Section references 5 conclusions when there are actually only 3 with various sub-bins within	update wording throughout to refer to 3 conclusions: EXC, INC, ID	Reject with modification. Titles of the 2 intermediate conclusions have been changed to "inconclusive with . . ."

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68	4.1	T	no general statement provided for when an examination cannot be completed due to lack of exemplars	include a general statement regarding incomplete examinations. Wording should say something like: If there is evidence to support that the area being examined in an unknown friction ridge impression is not recorded in the known exemplars or from an area of friction ridge skin that has no submitted exemplar for comparison, for example a foot impression, no conclusion shall be reached. The examination will be listed as Incomplete with a request that additional exemplars be submitted for comparison	Reject. The information for incomplete examinations is contained in Annex A in the Inconclusive section.
69	4.1	T	the graphic included implies that SDS and SSS are standalone conclusions when they are sub-bins of an Inconclusive conclusion	redo graphic to incorporate SDS and SSS as sub-bins of Inconclusive and include 2 other sub-bins for Inconclusive, cannot locate and cannot EXC or ID (see comment 19	Reject with modification. Titles of the 2 intermediate conclusions have been changed to "inconclusive with . . ."
87	4.1	T	in the second and third paragraph the word "dissimilarities" is used which is inconsistent with the definition	replace "dissimilarities" with "differences"	Reject. Dissimilarity is correctly used in this section as it is defined.
148	4.1	T	It is not clear what the model depicted in Figure 1. is supposed to show. Is this the expected or demonstrated distribution of source conclusions made by examiners? What is the 'threshold' being 'used or interpreted'?	Convey meaning of graphical representation, i.e. why the conclusions are represented by different size 'slices'. Alternatively, recreate graphical display to represent conclusions equally.	Reject with modification. The image is intended to be a visual aid of source conclusions and is not intended to indicicate that any set of conclusions are the vast majority. Figure and title revised for clarification and "not to scale" statement added.
162	4.1	T	Jurors might not understand the difference between Exclude/ID and Support for Different/Same Source(s) and give more weight to SDS/SSS conclusions than warrented	Merge the two conclusions with Inconclusive, allow FSP's to determine if SDS/SSS will be included in Inconclusive reporting	Reject with modification. Titles of the 2 intermediate conclusions have been changed to "inconclusive with . . ."
167	4.1	E	as seems unnecessary in final paragraph	Remove "as" from sentence	Accept

#	Section	Type of Comment (E-	Comments	Proposed Resolution	Final Resolution
179	4.1	t	While it may be ideal to report conclusions in terms of the weight of the evidence alone, this document instead defines a categorical reporting framework." "weight of the evidence" and "categorical reporting framework" are not defined, so the meaning of this sentence is unclear. If "weight of the evidence" is intended to refer to likelihood ratios and if "categorical reporting framework" is intended to refer to an ordered list of verbal expressions, then these two things are not generally considered to be mutually exclusive. We are advocates of using numeric likelihood ratios calculated using relevant data, quantitative measurements and statistical models, but the logical of the likelihood-ratio framework can be applied using subjective judgment and conclusions consistent with the logical of the likelihood-ratio framework can be expressed using a verbal expression selected from an ordinally ranked set of verbal expressions. We do not advocate this practice (see criticism in Maquis et al, 2016, and Morrison & Enzinger, 2016), but it is a practice advocated by the European Network of Forensic Science Institutes (ENFSI; Willis et al, 2015) among others. The sentence does not include any requirements or recommendations. REFERENCES: Marquis R., Biedermann A., Cadola L., Champod C., Gueissaz L., Massonnet G., Mazzella W.D., Taroni F., Hicks T.N. (2016). Discussion on how to implement a verbal scale in a forensic laboratory: Benefits, pitfalls and suggestions to avoid misunderstandings. *Science & Justice* , 56, 364–370. http://dx.doi.org/10.1016/j.scijus.2016.05.009 Morrison G.S., Enzinger E. (2016). What should a forensic practitioner's likelihood ratio be? *Science & Justice* , 56, 374–379. http://dx.doi.org/10.1016/j.scijus.2016.05.007 Willis S.M., McKenna L., McDermott S., O'Donell G., Barrett A., Rasmusson A., Nordgaard A., Berger C.E.H., Sjerps M.J., Lucena-Molina J.J., Zadora G., Aitken C.G.G., Lunt L., Champod C., Biedermann A., Hicks T.N., Taroni F. (2015). ENFSI guideline for evaluative reporting in forensic science, European Network of Forensic Science Institutes. http://enfsi.eu/wp-content/uploads/2016/09/m1_guideline.pdf	Delete this sentence.	Accept.

#	Section	Type of Comment (E-	Comments	Proposed Resolution	Final Resolution
180	4.1	t	"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." This sentence does not state a requirement or a recommendation, and is not grammatical: To be grammatical it would be "relative support of the observations for the following hypotheses", or "relative probability of the observation under the following hypotheses". The latter would be preferred as it provides the clearer expression of a likelihood ratio. There are, however, additional problems with the consideration of "similarities" or "dissimilarities" as the basis for the assessment of a likelihood ratio as assessments of this type do not take account of typicality with respect to the relevant population (see Morrison & Enzinger, 2018; Neumann & Austemore, 2020; Neumann et al, 2020). The proposal provides a more correct description of a likelihood ratio. It also rewords the sentence as a requirement. REFERENCES: Morrison G.S., Enzinger E. (2018). Score based procedures for the calculation of forensic likelihood ratios – Scores should take account of both similarity and typicality. *Science & Justice* , 58, 47–58. http://dx.doi.org/10.1016/j.scijus.2017.06.005a Neumann C., Ausdemore M. (2020). Defence against the modern arts: the curse of statistics –Part II: 'Score-based likelihood ratios', *Law, Probability and Risk* , 19, 21–42. http://dx.doi.org/10.1093/lpr/mgaa006 Neumann C., Hendricks J., Ausdemore M. (2020). Statistical support for conclusions in fingerprint examinations. In Banks D.L., Kafadar K., Kaye D.H., Tackett M. (Eds.), *Handbook of Forensic Statistics* (pp. 277–324). Boca Raton, FL: CRC. https://doi.org/10.1201/9780367527709	replace with: In reaching a conclusion, an examiner shall consider the relative probabilities of the observed properties of the two friction ridge impressions under two mutually exclusive propositions: (1) the two impressions originated form the same source, and (2) the two impressions originated from different sources.	Accept with modification. Sentence revised to "In reaching a conclusion, an examiner considers the relative probability of the observed data and assesses the similarities and dissimilarities under the following two propositions: the two impressions originated from the same source or from different sources."
181	4.1	t	"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." This sentence is problematic for the reason given in the previous comment. This sentence does not include a requirement or a recommendation.	Delete this sentence.	Reject: The sentence establishes the basis for logical framework.

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182	4.1	t	"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." The proposal corrects this sentence in accordance with the reasoning given in earlier comments. "statistical or probabilistic systems": The term "statistical model" would be more usual than "statistical system". "probabilistic system" appears to be novel term which appears to by a synonym for "statistical model". The wording of the original gives permission for the examiner to use all the techniques combined, but does not suggest any alternatives that they would also be permitted to use. It would seem more appropriate to require the examiner to use this combination.	replace with: An examiner shall utilize their knowledge, training, and experience as well as statistical models in order to evaluate the relative probabilities of the observed properties of the two friction ridge impressions if one proposition versus if the other proposition were true.	Accept with modification. Revised all probability models to statistical models. May to shall not accepted as one cannot validate the use of knowledge, training, and experience.
183	4.1	t	"This document defines the five conclusions that may be selected by examiners when reaching a conclusion after comparing friction ridge impressions. The FSP shall only select one of these conclusions, and only as written and described in 4.2 through 4.6." Upon reading the details, there appear to be 7 rather than 5 conclusion-expressions. What is to be selected is an expression of the conclusion not a means of reaching a conclusion. The second sentence changes the agent from the examiner to the forensic service provider. Surely it is the examiner who is responsible for the conclusion (contrary to the definition given in §3.6, the term "forensic service provider" is usually used to refer to the organization, not to an individual examiner). "only as written and described" does not appear to serve any purpose given that the first sentence gave permission to use one of these expressions, which does not exclude using some other expression of the conclusion.	replace with: In stating their conclusion, the examiner may select one of the written expressions provided below.	Accept with modification. "FSP" changed to "examiner" The rest of the sentence remains as written to mainain the requirement.
184	4.1	t	"Each one of these “slices” or delineations between the categories is as a result of a threshold being used or interpreted either by the examiner or by some probabilistic model." This sentence does not include a requirement or a recommendation, and does not provide any information that is not self evidence – in order to put something that is continuously valued into one of multiple categories, a threshold has to be applied. (thresholds are not "interpreted")	Delete this sentence.	Accept
185	4.1	t	Figure 1 does not provide information in a clearer or more succinct manner than it can be provided in the text, in fact the figure consists of mostly text rather than diagrams.	Delete Figure 1. List each written expression as a bullet point. (Put any comments on each written experssion at a more indented level.)	Reject. Some users may prefer the visual representation, and it is informational.

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223	4.1	T	. . . assesses the relative support of the observations. How is this done? The document doesn't explain and the examples are inadequate.	How the assessment is done should be explained? Is it assessed based on what we've learned from studies such as those on the frequency of minutiae. The document should explain concrete, tangible things used to make the assessment.	Reject with modification. Statement removed based on other comments. Explanations of the assessment is outside the scope of this document.
224	4.1	T	examiner may utilize knowledge, training, and experience . . . This is neither tangible nor transparent.	The document should define what tangible information the examiner is using to determine the level of support. There a numerous studies out there about minutiae and its frequency that could be used as well as other information that could easily be explained to the end user.	Reject. This is outside the scope of this document and will be covered in the Standard for Examination and the BPR for Comparison and Evaluation when discussing interpretation. These are separate documents and will be released when they are through the consensus process.
265	4.1	T	These conclusions cannot be used consistently without a standard methodology. The document does not stand on its own.	Hold this document and roll it out with a methodology document that states how and when to use each conclusion.	Reject. These are separate documents and will be released when they are through the consensus process.
297	4.1	E	5th paragraph, 1st sentence statement is redundant	This document defines the five conclusions that may be selected by examiners when reaching a conclusion after comparing friction ridge impressions.	Reject. Sentence maintained for clarity.
298	4.1	E	6th paragraph, 1st sentence - suggest alternate wording to "slices" and remove "as" from "is as a result"	remove word "slices" or use alternative wording "sections" "segments" and remove "as' from "Each one of these “slices” or delineations between the categories is as a result of"	Accept with modification. Sentence deleted.
316	4.1	T	This section states "This document defines the five conclusions that may be selected by examiners". Much like the comment in 3.1, a statement should be added to reflect "per their agency SOPs".	Add to the statement, "per their agency SOPs."	Reject. "per the agency SOPs" is implied and not necessary to state.
317	4.1	T	This section refers to the examiner when stating "may utilize their knowledge, training and experience…" and in "This document defines the five conclusions that may be selected by examiners...". Then the statement refers to the FSP in "The FSP shall only select one...". This makes it sound like the examiner can reach the five conclusions, but the FSP can only use one.	For clarity, FSP should be changed to examiner in the statement that refers to the FSP.	Accept.
359	4.1	E	Please refer to the comments made to the Foreword and Section 4. Additionally, unlike the rest of this standard, when Section 4.1 refers to “statistical or probabilistic systems” it does not specific that such systems must be validated appropriately, and it should do so.	Please refer to the proposed resolutions for the Foreword and Section 4. Additionally, add the word validated before the words “statistical or probabilistic systems.”	Reject with modification. "probablilistic systems" replaced with "model". There is no criteria for what is validated.
286	4.1 2nd paragraph, 2nd line	T	4.1 states similarity is being measured but it implies correspondence is being measured. The document discusses correspondence but does not state when correspondence exists.	Clarify the difference between similarity/dissimilarity and correspondence/non-correspondence so that the document does not conflict with itself.	Accept. Definitions have been edited.

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28	4/Figure 1	T/E		Additional information is needed to describe the factors or criteria for each of the five conclusion categories. If a gradation exists within each category, it will also be necessary to define criteria for the use of different wording (e.g., moderate support, or limited support) that is suggested within each category, and to apply these terms in the examples in the Annex. In addition, the sizes of the various boxes in Figure 1 may inadvertently give people misleading impressions regarding the relative frequency of the different conclusions. It should be changed to either reflect the actual proportion of all analyses (not just analyses that are used as part of trial testimony) if that data is reliably available, or changed to equal size boxes. Any terms that are developed to be used within the categories should also be included in Figure 1 (i.e. highly confident, could, etc.)	Reject with modification. The criteria are outside the scope of this document and will be covered in the Standard for Examination and the BPR for Comparison and Evaluation when discussing interpretation. These are separate documents and will be released when they are through the consensus process. NOTE added to figure for clarification that it is an informative figure.
30	4.2	T/E	Why is it optional for an examiner to state if they are not excluding all the friction ridge detail in a conclusion?	The sentence should be edited to “If an examiner is not excluding all the friction ridge detail of an individual it **shall** be so stated and a conclusion of inconclusive may be more appropriate, for example the feet of an individual. “Additionally, this sentence would be better placed under the explanation for inconclusive since the document is advising for an inconclusive conclusion and not a source exclusion.	Reject with modification. Paragraph deleted and modified to be a note. Section revised for clarification.
35	4.2	T	In the 2nd paragraph it states "If an examiner is not excluding all the friction ridge detail of an individual it should be so stated and a conclusion of inconclusive may be more appropriate, for example the feet of an individual." Does this mean we need to state we aren't excluding their feet even if we believe the print is not from a foot?	If a print is clearly from or believed to be from a finger or palm, an examiner should feel like they can exclude a person. If this is not the intention of the statement, I suggest the foot comment be removed entirely.	Accept.
71	4.2	T	the second statement about an inconclusive is not needed	remove second statement from 4.2	Accept with modification, statement revised and modified to be a note.
92	4.2	T	If we clearly have an unknown fingerprint or palm print we should not need to mention anything about known footprints. In almost 20 years of experience I have had only 2 cases in which footprints were present. In those cases we obtained known footprints for comparison and they were listed as such in my report.	Remove the example of feet. I'm ok with listing exclusions of fingerprints and/or palm prints.	Accept.
149	4.2	T	"all the friction ridge detail of an individual" sounds like it refers to the entire body. It is not clear if this refers to FR detail present in a source, or not included in the source.	Specify what "all the friction ridge skin of an individual" refers to.	Reject with modification. Paragraph deleted and modified to be a note. All friction ridge skin includes the entire palmar and plantar surface of an individual and does not need to be defined for users of this document.
150	4.2	E	The example of "feet of an individual" lacks context	Provide more context / explanation of the example used.	Accept with modification. Statement deleted.
168	4.2	T	Is excluding all friction ridge detail necessary if a latent print is demonstrably not a foot/toe print (whole hand print) or improbably a foot? I understand this is a "should" statement.	Perhaps make the example more specific to impressions of unknown origin or if the location makes origin uncertain.	Accept with modification. Satement deleted.

#	Section	Type of Comment (E-	Comments	Proposed Resolution	Final Resolution
186	4.2	t	"4.2 Source Exclusion Source exclusion is the conclusion that the observed data provide substantially stronger support that the two impressions originated from different sources rather than the same source." The term "source exclusion" has much stronger connotations than suggested by the definiton provided. This terms is misleading and all should not be used. The remainder of the proposal alters the wording in line with earlier comments.	Replace with: • The observed properties of the two friction ridge impressions are substantially more probable if they came from different sources than if they came from the same source.	Reject with modification. Statement revised based on other comments for clarity. Proposed resolution does not provide additional clarity.
187	4.2	t	"If an examiner is not excluding all the friction ridge detail of an individual it should be so stated and a conclusion of inconclusive may be more appropriate, for example the feet of an individual." This sentence includes a recommendation and a permission, but they do not make sense in the context of the task with was defined in terms of the comparison of two friction ridge impressions. The example given in the final clause does not appear to be an example of anything in the earlier part of the sentence.	Delete this sentence.	Accept with modification, statement revised and modified to be a note.
212	4.2	T	Revise the Definition of Source Exclusion: Source exclusion is the conclusion that the observed data provide substantially stronger support that the two impressions originated from different sources rather than the same source. There is a strong disagreement present such that the examiner would not expect to see that level of disagreement in an impression from the same source. Replace the word "disagreement" with the word "discrepancy." Add to the word "discrepancy" to the definitions in the document. What is substantially stronger support and how is that determined.	Source Exclusion: Source exclusion is the conclusion that the observed data provide substantially stronger support that the two impressions originated from different sources rather than the same source. There is a strong discrepancy present such that the examiner would not expect to see that level of a discrepancy in an impression from the same source. Discrepancy - The presence of friction ridge detail in one impression that does not exist in the corresponding area of another impression (Fingerprint Sourcebook) Define or state how substantially stronger support is determined.	Reject. Discrepancy is the same as disagreement and does not need to be revised in this document, as it is appropriately defined and used throughout the document. Defining how substantially stronger support is determined is outside the scope of this document and will be covered in the Standard for Examination and the BPR for Comparison and Evaluation when discussing interpretation. These are separate documents and will be released when they are through the consensus process.
247	4.2	T	In the 2nd paragraph it states "If an examiner is not excluding all the friction ridge detail of an individual it should be so stated and a conclusion of inconclusive may be more appropriate, for example the feet of an individual." Does this mean we need to state we aren't excluding their feet even if we believe the print is not from a foot?	If a print is clearly from or believed to be from a finger or palm, an examiner should not need to state they are not excluding someone's feet. If this is not the intention of the statement, I suggest the foot comment be removed entirely. Perhaps a better approach would be to focus on what IS being excluded rather than what is NOT being excluded. If only a particular source of FR detail is being excluded, it should be stated which area IS being excluded. For example, if you have an unknown impression and you're only excluding the fingers of a person, it should be stated that only the fingers are being excluded.	Accept with modification, statement revised and modified to be a note.
308	4.2	E	"If an examiner is not excluding all the friction ridge detail of an individual it should be so stated and a conclusion of inconclusive may be more appropriate, for example the feet of an individual." - Is this to be applied for impression where the anatomical source is unknown or will it be applied to all impressions when foot exemplars are not provided?		No resolution proposed. Section modified for clarification.

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29	4.2, 4.3, 4.4, 4.5, 4.6	T/E		4.2, 4.3. 4.4, 4.5. and 4.6 should all be revised to provide a thorough explanation for how conclusions are reached by an examiner that use and don't use statistical models for conclusion. Forcing traditional examiners to use propositions is neither beneficial to them as experts or to a jury seeking clear explanation.	Reject. That level of detail is out of scope of this document. There is no requirement for practitioners to use a statistical model for conclusions. The use of propositions in decision framework was being inducted by examiners previous to this document.
311	4.2 and 4.6	E	How should this transition and difference in the source identification and source exclusion be explained from the historically used identification and exclusion conclusions since the definitions would use the same terms ("source", "identification", "exclusion") but are not the same in the meaning?		No resolution proposed
371	4.2 to 4.6	T	The words confuse statements of support for source conclusions with statements of the source conclusions.	Rewrite to follow consistently the admittedly better approach of making statements of the degree of support for hypotheses rather than statements of belief ("opinions") on the hypotheses themselves. Specifically, Change 4.2 to "Lots of Support for Different Sources" (or a more formal version of that) and 4.6 to "Lots of Support for for the Same Source". Do not continue to use terms that have established meanings in the field ("exclusion" and "identification") to denote things that are conceptually different.	Reject. FRCB consensus is to continue to use terms "identification" and "exclusion."
152	4.2, 4.6	E	Source Exclusion and Source Identification definitions/examples should theoretically mirror each other. But the definitions/examples are very different from one another and do not mirror one another.	Make the 4.2 and 4.6 definitions/examples mirror each other.	Reject. FRCB consensus is to use these definitions. Mirrored definitions were considered but did not command consensus.
290	4.2-4.6	T	These sections seem to be restating definitions and therefore unnecessary. If the standard is to use these conclusion only then 4.1 is the only real requirement.	Remove 4.2-4.6 because it's unnecessarily repetitive, it adds bulk but not content.	Reject with modification. Requirements retained, but definitions have been shortened, reducing repetition.
36	4.3	T	Support for Different Source is confusing to the agencies that we serve and to potential juries.	This should still be considered an inconclusive. I feel like if we say that it we see dissimilarities but lack of support for an exclusion then they only hear that it could still be or may not be. I think we should be clear that its inconclusive and not lean them one direction or the other.	Reject with modification. Titles of the 2 intermediate conclusions have been changed to "inconclusive with . . ."
67	4.3	T	SDS is not a conclusion. It is a sub-bin of an Inconclusive conclusion	remove SDS as a standalone section and include an example in the Annex under Inconclusive	Reject with modification. Titles of the 2 intermediate conclusions have been changed to "inconclusive with . . ."
72	4.3	T	SDS is not a conclusion. It is a sub-bin of an Inconclusive conclusion	remove from Section 4	Reject with modification. Titles of the 2 intermediate conclusions have been changed to "inconclusive with . . ."
93	4.3	T	I feel the support for different sources conclusion is misleading.	Keep this conclusion in the inconclusive category.	Reject with modification. Titles of the 2 intermediate conclusions have been changed to "inconclusive with . . ."
96	4.3	T	A friction ridge impression that lacks a clear focal point cannot reliably demonstrate any dissimilarity to a known. The examiner is essentially "unable to locate" a target area, this does not indicate any differences.	Move this type of comparison to the Inconclusive category (section 4.4).	Reject with modification. Titles of the 2 intermediate conclusions have been changed to "inconclusive with . . ."
163	4.3	T	Support for Different Sources is ambiguous and biasing information	Remove Support for Different Sources as a viable conclusion	Reject with modification. Titles of the 2 intermediate conclusions have been changed to "inconclusive with . . ."
170	4.3	T	As a delineated, specific conclusion there is concern Support for Different Sources could be misinterpreted by investigators, lawyers, and juries. Even if we state what this conclusion actually means, do others read/hear it that way?	Include Support for Different Sources as a sub-category of Inconclusive.	Reject with modification. Titles of the 2 intermediate conclusions have been changed to "inconclusive with . . ."

#	Section	Type of Comment (E-	Comments	Proposed Resolution	Final Resolution
188	4.3	t	"4.3 Support for Different Sources Support for different sources is the conclusion that the observed data provides 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." There appear to be two categories here "strong" and "limited". They should be clearly stated as two categories. The proposal uses "much more probable" and "slightly more probable". The requirement that the examiner state why a stronger conclusion was not stated is problematic. Such statements are likely to be taken as inferring that the examiner really believes that the evidence is stronger but they have been prohibited from stating what they really believe. Such statements should not be made.	Replace with: • The observed properties of the two friction ridge impressions are much more probable if they came from different sources than if they came from the same source. • The observed properties of the two friction ridge impressions are slightly more probable if they came from different sources than if they came from the same source.	Reject. FRCB consensus is to use no more than 5 categories.
213	4.3	T	Support for Different Sources. Without well defined criteria and definitions, the conclusion will give rise to more subjectivity, inconsistency, and conflict in interpreting and applying the reasoning behind the conclusion with terms such as, "Strong vs Substantial," "Limited," or "Weak". Intra- and Inter-laboratory examiners may have more difficulty articulating and defending their conclusions during testimony, and may be percieved as incompetent or unreliable.	Eliminate this Conclusion.	Reject with modification. Titles of the 2 intermediate conclusions have been changed to "inconclusive with . . ."
248	4.3	T	Support for different sources conclusion is concerning, as I feel it may mislead our contributors, attorneys, judges, and juries. Stating this conclusion may come across the same as an exclusion.	Remove this conclusion or at least do NOT require examiners to report this conclusion (and make it clear in the document these conclusions are not standards that must be followed). Inconclusive is sufficient.	Accept with modification. Examiners are not required to report any conclusions. Titles of the 2 intermediate conclusions have been changed to "inconclusive with . . ."
261	4.3	T,E	The terms Source Exclusion and Source Inclusion are defined, in part, by referring to the examiner's expectations regarding the likelihood of the observed data under the propositions of same source or different source. For the sake of consistency and transparency, I suggest that the terms Support for Different Sources (SDS) and Support for Same Source (SSS) be defined the same way. The definition should include a statement about how the examiner views the probability of the observed data under the propositions being evaluated. Adding this material will make the logic of the examiner's determination more transparent by clarifying that it ultimately rests on a judgment about the relative probability of the observed data under the relevant propositions.	At the end of the sentence that begins "There are observed dissimilarities between the impressions and a lack of correspondence present" add the following: "such that the examiner believes the observed data are more probable if the impressions have a different sources than the same source."	Accept.

#	Section	Type of Comment (E-	Comments	Proposed Resolution	Final Resolution
276	4.3	T	SDS is biasing towards an exclusion. The examples show that this conclusion is based on assumptions and not data. SDS is also not mutually exclusive to inconclusive, it is a reason for an inconclusive conclusion, not a conclusion within itself.	Remove SDS and include this as a reason for an inconclusive conclusion.	Accept with modification. Titles of the 2 intermediate conclusions have been changed to "inconclusive with . . ."
334	4.3	T	At this point, in my opinion, we should not be assigning the degree of support for either the support for different sources or support for same sources categories.	Until we have better research indicating the degree of support for a set of features as high or low and that examiners can use the degree correctly, mentioning whether support is high or low is not appropriate.	Reject. Indicating the degree of support adds transparency.
91	4.3 & 4.5	Technical	I am, frankly, shocked that this organization would consider “support” conclusions. We are not comparing a drug, or a shoe impression. These are people who may lose their freedom or even life. A conclusion of support for same source will intentionally introduce bias. Please do not forget how much sway we have over a jury. That “same source” seed has been planted and no number of warnings or disclaimers can undo it. You are directing us to give a questioned impression, lacking sufficiency for a same source conclusion, a “maybe” bias. We cannot say it’s him, but it might be. Bias is one of the main issues thrown at us in court, and you want to introduce an intentional source of bias that will come directly from us?	I would like the document to make it clear that "support for" conclusions are not mandatory, but if used they will follow these guidelines.	Accept with modification. Examiners are not required to report any conclusions. Titles of the 2 intermediate conclusions have been changed to "inconclusive with . . ."
299	4.3 & 4.5	T	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. (See Annex A (now Annex B), Section Support for Different Source).	If ASB does decide to continue to include "degree of support" which I am NOT in favor of - may want to define if the expectation to "include a statement of the degree of support and the factor(s) limiting a stronger conclusion." is required in the report or the notes. I would be infavor of a general description of what SSD SSS mean in the report and leaving the details as presented in the appendix to to the notes and conversations with the parties involved - it is too much to put in reports.	Reject. "Documentation of conclusions" is outside the Scope of the document. See Reporting of Results document.
328	4.3 and 4.5	T	The degrees of support range we are being asked to use is not defined nor explained enough to be able to use accurately and appropriately based on the information in this document. This will lead to an even larger variety of conclusion support wording than we already encounter in the discipline.	Propose a scale and/or definitions of degrees of support and what they mean as related to each source conclusion.	Reject. Proposal is not specific enough to act on.
330	4.3 and 4.5	T	Both the "support for different source" and "support for same source" conclusions require reporting a degree of support (strong, weak, etc). However, aside from a few examples in the annex, there is no guidance about how to properly define or justify the weight of the conclusion that is chosen. This has the potential to contribute to less standardization in the field, as agencies are likely to define their levels of support differently.	Two proposed resolutions: 1) provide fully developed definitions and criteria for the levels of support for any agency that chooses to use the "support for…" conclusions. Or 2) Allow the agency to use "support for same/different source" (no degrees) with an explanation of factors limiting a stronger conclusion for each comparison.	Accept. Sentence added to both 4.3 and 4.5 for clarification.
41	4.3, 4.5	T	We agree that the wording for source exclusion, inconclusive, or source identification needs to change to reflect the research behind friction ridge comparisons. Until a useable statistical model is developed or until likelihood ratios become standard in North America, the three conclusions used now are sufficient. A sliding scale of five conclusions is confusing and useless to our customers.	Remove sections.	Reject with modification. Titles of the 2 intermediate conclusions have been changed to "inconclusive with . . ."

#	Section	Type of Comment (E-	Comments	Proposed Resolution	Final Resolution
151	4.3, 4.5	T	"The degree of support may range from limited to strong or similar descriptors of the degree of support" -- 'similar descriptors' might be listed exhaustively.	Specify the precise language that may be used to describe degree of support. Is this language supposed to be standardised?	Reject. Examples of precise language are given in Annex B.
160	4.3/4.5	T	Use of Support for Different/Same Source(s) could lead to increased conflict between examiner conclusions during verification	Merge the two conclusions with Inconclusive, allow FSP's to determine if SDS/SSS will be included in Inconclusive reporting	Reject with modification. Titles of the 2 intermediate conclusions have been changed to "inconclusive with . . ."
73	4.4	T	need an additional statement that no additional exemplars from a compared exemplar will lead to a different conclusion to be consistent with an Incomplete examination	add the statement "No additional exemplars submitted for the source compared would lead to a different conclusion."	Reject. The information for incomplete examinations is contained in Annex A in the Inconclusive section.
166	4.4	T	Historically and in this current document "Inconclusive" is recommended whenever the analyst is unable to make all appropriate comparisons due to a lack of source standards (eg., fp standards are available and have been compared, but palm standards are not available) or when the appropriate standards are available but they cannot be fully compared due to smudged and incomplete areas. I would propose using the term "Incomplete" for those types of comparison results. This will help the customer/reader limit their confusion around the term "Inconclusive" as it would only apply to a finalized comparison. It will help provide better context and understanding that additional comparisons could be conducted if the appropriate standards were available. A conclusion would only be formalized once the analyst believes that all reasonable comparisons have been made and no additional standards are required. If the analyst believes that additional standards are required, the comparison would be reported as "Incomplete" with the specific reason. (Reporting Example- "The latent print marked (designator) was compared to a set of fingerprint standards from (subject name), but this comparison was incomplete due to smudged and incomplete recordings of the fingertip areas. It is recommended that additional fingerprint standards, which clearly and completely record the extreme tip areas of each finger, are collected from (subject name) for submission to the laboratory.")	Remove first two examples under Inconclusive (Section 4.4). Instead, incorporate "Incomplete comparison" as a comparison result for these types of situations.	Reject. The information for incomplete examinations is contained in Annex A in the Inconclusive section.
189	4.4	t	"4.4 Inconclusive Inconclusive is the conclusion that the observed data does 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 other conclusions." Proposal is in accordance with earlier comments.	Replace with: • The observed properties of the two friction ridge impressions are equally probable irrespective of whther they came from the same source or from different sources.	Reject. Proposed language is not clearer.
266	4.4	T	The definition of inconclusive is not understandable; is 'incomplete' suppose to be included in this category? Using one term for two different conclusions (#1-a conclusive conclusion can never be arrived at, and #2-a comparison has not been completed as of yet) is not transparent or clear to the end customer, and therefore not useful.	Add incomplete as its own conclusion.	Reject. The information for incomplete examinations is contained in Annex A in the Inconclusive section.
300	4.4	T	Any use of this conclusion shall include a statement of the factor(s) limiting other conclusions.	In report or Notes? I am in favor of a general statement in report- I am NOT infavor of a latent by latent break down of the factors for each comparison in the report.	Reject. "Documentation of conclusions" is outside the Scope of the document. See Reporting of Results document.

#	Section	Type of Comment (E-	Comments	Proposed Resolution	Final Resolution
327	4.4	T	Are there limits and/or confines to the range of inconclusive conclusion factors statements? Such as commonly used statements "no corresponding ridge detail observed" which has historically been used as a catch-all when an examiner cannot come to an ID, SSS, SDS, EXC conclusion.	Acknowledge or define whether there are limits to the factors statements that may be used.	Accept: A statement has been added for clarification.
244	4.4, 3.10	T	The wording "not provide a sufficient degree of support" seems unnecessary and could open one up to potential questioning as to what numerical "degree" of support was given. It sounds too similar to "reasonable degree of scientific certainty", which is a qualification and limitation of the conclusions. It could simply read "does not provide sufficient support for one proposition over the other".	Remove the words "a" and "degree of" from inconclusive definitions throughout.	Accept
37	4.5	T	Support for Same Source is confusing to the agencies that we serve and to potential juries.	This should still be considered an inconclusive. I feel like if we say that we some characteristics in agreement but can't say that its an identification then the jury is only going to hear that it an identification and not understand that this must be weighted to not an identification. I think an inconclusive statement does not lean the detectives or the jury in either way.	Accept with modification. Titles of the 2 intermediate conclusions have been changed to "inconclusive with . . ."
74	4.5	T	SSS is not a conclusion. It is a sub-bin of an Inconclusive conclusion	remove from Section 4	Reject with modification. Titles of the 2 intermediate conclusions have been changed to "inconclusive with . . ."
94	4.5	T	I feel the support for same sources conclusion is misleading.	Keep this conclusion in the inconclusive category	Reject with modification. Titles of the 2 intermediate conclusions have been changed to "inconclusive with . . ."
113	4.5	T	The term "support" and observation of similarities is appropriate, since it accurately describes what an observer is doing. However, the notion that "same source" propositions can receive "more support" than not, based on such observations would need to be established by empirical research. Absent any empirical basis to reach a conclusion about degrees of support, this entire section is calling for subjective and opinion-based concclusions that are not grounded in any validated probabilities. The section calls for conjecture and it does not note that any such "conclusion" brings with it known error rates.	While little is known about what the empirical basis is for concluding that patterns originated from the "same source," something is known about error rates in work by latent examiners. If anything is to be reported, it should be what is empirical known: error rates. Both error rates from larger scale or black box studies should be reported as well as the examiner's own proficiency, if rigorously tested. That information is objective and it should inform any reporting of conclusions, since absent such information there is no way of assessing whether the examiner's personal observations should be credited in any way.	Reject. Outside the Scope of document. Conclusions are not error rates. Nothing in this document precludes the use of error rate data.
164	4.5	T	Support for Same Source is ambiguous and biasing information	Remove Support for Different Sources as a viable conclusion	Reject with modification. Titles of the 2 intermediate conclusions have been changed to "inconclusive with . . ."
171	4.5	T	As a delineated, specific conclusion there is concern Support for Same Source could be misinterpreted by investigators, lawyers, and juries. Even if we state what this conclusion actually means, do others read/hear it that way?	Include Support for Same Source as a sub-category of Inconclusive.	Reject with modification. Titles of the 2 intermediate conclusions have been changed to "inconclusive with . . ."

#	Section	Type of Comment (E-	Comments	Proposed Resolution	Final Resolution
190	4.5	t	"4.5 Support for Same Source Support for same source is the conclusion that the observed data provides 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." Proposal is in accordance with earlier comments.	Replace with: • The observed properties of the two friction ridge impressions are slightly more probable if they came from the same source than if they came from different sources. • The observed properties of the two friction ridge impressions are much more probable if they came from the same source than if they came from different sources.	Reject. FRCB consensus is to use no more than 5 categories.
214	4.5	T	Support for Same Source. Without well defined criteria and definitions, the conclusion will give rise to more subjectivity, inconsistency, and conflict in interpreting and applying the reasoning behind the conclusion with terms such as, "Strong vs Substantial," "Limited," or "Weak". Intra- and Inter-laboratory examiners may have more difficulty articulating and defending their conclusions during testimony, and may be percieved as incompetent or unreliable. Further, OSAC FRS should provide guidance on the definition for the suitability decision "Of Value". The approach of "Value for Identification" (Document #10 Standards for Examining Friction RidgeImpressions and Resulting Conclusions, 5.1.4.2.1) would need to be eliminated or revised to include "Strong Support for Same Source" decisions.	Eliminate this Conclusion.	Reject with modification. Titles of the 2 intermediate conclusions have been changed to "inconclusive with . . ."
249	4.5	T	Support for same source conclusion is concerning, as I feel it may mislead our contributors, attorneys, judges, and juries. Stating this conclusion may come across the same as an identification.	Remove this conclusion or at least do NOT require examiners to report this conclusion (and make it clear in the document these conclusions are not standards that must be followed). Inconclusive is sufficient.	Accept with modification. Examiners are not required to report any conclusions. Titles of the 2 intermediate conclusions have been changed to "inconclusive with . . ."
252	4.5	T	I believe that this will murky the waters of using fingerprints in court. I testified for many years where procesutors wanted a "maybe" and I thnk this gives that to them . I am making this stateemnt knowing that these standardswill not directly affect me as I do not go to court any longer, but will effect the discipline.	I would just leave as inconclusive and an explanition why	Reject with modification. Titles of the 2 intermediate conclusions have been changed to "inconclusive with . . ."
262	4.5	T, E	The terms Source Exclusion and Source Inclusion are defined, in part, by referring to the examiner's expectations regarding the likelihood of the observed data under the propositions of same source or different source. For the sake of consistency and transparency, I suggest that the terms Support for Different Sources (SDS) and Support for Same Source (SSS) be defined the same way. The definition should include a statement about how the examiner views the probability of the observed data under the propositions being evaluated. Adding this material will make the logic of the examiner's determination more transparent by clarifying that it ultimately rests on a judgment about the relative probability of the observed data under the relevant propositions.	Revise the second sentence to read as follows: "There are observed similarities between the impressions and some correspondence present, such that the examiner believes the observed data are more probable if the impressions have the same source than a different source; however the examiner may also expect to see similar correspondence in another source."	Accept.

#	Section	Type of Comment (E-	Comments	Proposed Resolution	Final Resolution
273	4.5	T	SSS (4.5) is not a conclusion within itself, it is a reason for an inconclusive conclusion (4.4).	Remove SSS as a conclusion and list it as a reason behind an inconclusive conclusion (in 4.4)	Reject with modification. Titles of the 2 intermediate conclusions have been changed to "inconclusive with . . ."
274	4.5	T	(Same comment as written for the definition, but I am now stating the same comment for the requirements section) The phrase SSS is highly misleading. The term is being used to mean 'consistent with another item' however the term SSS is swaying others to believe consistency implies something is likely. This is extremely biasing.	Change the phrase SSS to be 'some consistency exists' and then require that the amount of consistency be stated.	Reject. Intent is for the examiner to make a subjective judgment about the relative likelihood of the consistency.
295	4.5 and 4.6	T	If SI is not stating a fact, it is 'support' for a conclusion, the SSS is the same thing (it is also support for a conclusion). The definitions somewhat clarify the difference but the phrase SSS is highly misleading.	Change the title if SI to SSS and change the title of SSS to be 'consistency but an insufficient amount to establish an association'.	Reject. FRCB consensus is to continue to use term "identification."
38	4.6/5	T	the definition of source identification, stonger support that two impressions originated from the same source tather than different sources, sounds very similar to Section 5, an examiner shall not assert that two impression were made by the same source.	Originated and made are technically the same word. I feel like these statements need to be clearer on how to express this is court and on reports that they don't sound the same.	Reject. The difference between the two statements lies in the words "support that," rather than in a distinction between originated and made.
176	4.6/5	T	In Section 5 it states "An examiner shall not assert that two impressions were made by the same source…" and in Section 4.6 it states the correspondence is strong enough "…the examiner would not expect to see the same arrangement of details repeated in an impression from another source." - I think I know what OSAC/ASB is getting at, but these two statements seem somewhat contradictory on the surface.	Add clarifying verbiage that the expectation is the opinion of the examiner and although not expected to be seen in another source, it can't be empirically asserted.	Reject. We do not think proposal will clarify matters.
31	4.6	T/E	Although the note implies the historical meaning of source identification does not correspond to the definition used in this document, what is being done to make this information clear to readers of a report or listeners in a jury? More must be done to make this distinction clear.	Repurposing the term source identification may be too big of a challenge when the term already has historical meaning for practitioners and laypersons. The note does not do enough to create the space needed for a new interpretation; new language is needed to ensure there isn't confusion about this term. We would suggest using "strong support for same source" instead of Source Identification.	Reject. FRCB consensus is to continue to use "identification."
75	4.6	T	Note is not consistent with the definition within the document as Source Identification is being used the same way it has been historically been used no matter how worded	remove NOTE from Section 4.6	Reject. FRCB disagrees.
76	4.6	T	not all Identifications are the same and it should be stated as such in Section 4.6 for clarity	include a sentence at the end of Section 4.6 that states: The degree of support may range from limited (complex) to strong (basic) or similar descriptors.	Reject. Section 4.6 deals only with substantially stronger support and only occurs when substantially stronger support is present.
114	4.6	T	The words "source identification" and "substantially stronger" and "strong" should not be used in this section because they are not defined, there are no criteria based on validated research to form such conclusions, and there is no qualification providing information regarding error rates associated with such conclusions when a method is used or when an examiner conducts this work.	Subsection 4.6 should be deleted. The most that an examiner can say is that there are "observed similarities," a conclusion which is set out in 4.5. Nothing more can be said about how "strong" or "substantially" strong such conclusions are absent research, based on population data, to permit such probalistic statements.	Reject. FRCB consensus is to continue to use term "identification."
153	4.6	T	The meaning of 'identification used historically in the discipline' needs to be clarified.	Clarify what is meant by 'meaning of identification used historically', and how this is distinguished from the way 'identification' is being used in the current document.	Accept.

#	Section	Type of Comment (E-	Comments	Proposed Resolution	Final Resolution
159	4.6	T	Despite the language in this draft, I believe that "Source identification" will be understood by juries an judges to mean exactly what :identification" used to mean,namely that the POI (Person of Interst) left the latent print. The problem is that the number of people who may have the same characteristics as those found in common between the latent and the POI is unknown. Hence the inferential power of "source idetification" is likely exaggerated. I think"support for same source" is as far as the science can support.	deletion, with necessary changes elsewhere to accommodate.	Reject. FRCB consensus is to continue to use "identification."
191	4.6	t	"4.6 Source Identification Source identification is the conclusion that the observed data provides substantially stronger support that the two impressions originated from the same source rather than different sources. ... NOTE Source identification does not correspond to the meaning of identification used historically in the discipline." Proposal is in accordance with earlier comments. The note actually provides a reason for why the term "identification" should not be used.	Replace with: • The observed properties of the two friction ridge impressions are substantially more probable if they came from the same source than if they came from different sources.	Reject. The proposed resolution is not substantially different from the current text in the document, the current text is appropriate as written.
215	4.6	E	Colon is missing after the word "NOTE."	Insert colon after NOTE.	Reject. ASB Style
246	4.6	T	The document changes the historical definition of "Source Identification." This is likely to cause confusion going forward if the Standard is adopted. When the phrase "Source Identification" is enoutered in lab reports, testimony, transcripts, legal documents, literature etc., it will not necessarily be clear whether the reader/consumer should ascribe the historical definition (identified to the exclusion of all others) or the definition listed in section 4.6. The NOTE does not help. It actually further confused the issue. If it does not correspond, why is the same language being used? Use of the same language would seem a poor way to prevent such consusion. 4.6 alone negates and compromises this entire document. Additionally, the language is really just another way of saying "to the exlusion of all others." It still does not allow or provide for objective support for the opinion that can be reviewed by another qualified examiner.	The best resolution is simply to delete 4.6. The degree of support for the same source would then be provided by the examiner, either quantitativly or qualitatively. This would be far more consistent with the direction that forensic science as a whole is headed. It would be forward looking rather than backword looking. It would give stakeholders far more confidence in conclusions provided by fingerprint examiners.	Reject. FRCB consensus is to continue to use "identification."
258	4.6	E	Colon needed after "NOTE"	Insert necessary colon	Reject. ASB Style
301	4.6	T	Unclear what ASB intended here: "NOTE Source identification does not correspond to the meaning of identification used historically in the discipline."	Need to further define given that Definition says? "3.21 source identification ID"	Accept with modification. Deleted "ID" from 3.21.
310	4.6	E	For the Note - could the assumed historical definition of identification be provided in this document?		Accept.

#	Section	Type of Comment (E-	Comments	Proposed Resolution	Final Resolution
341	4.6	E	I commend ASB on this document which improves upon the status quo. I suggest not using the terms "source identification" and "source exclusion." The document redefines these terms beyond their historically accepted meanings, both in common language (see Dictionary.com: "to recognize or establish as being a particular person or thing") and the discipline. This will confuse both consumers and practitioners.	Change to "strong support for same source" and "strong support for different sources"	Reject. FRCB consensus is to continue to use terms "identification" and "exclusion."
331	4.6 NOTE	T	Using the term "identification" and trying to say it now has a different definition will only create confusion. If the discipline really thinks "identification" has too much baggage from the years of "exclusion of all others, 100% certainty", etc., then a new term needs to be chosen. To be honest, "Source identification" sounds like an even stronger conclusion than "identification" to me, so I don't think the issues of potentially overstating are solved by using that term.	Two suggestions: 1) Change the conclusion to "Source Correspondence" (to be consistent with definitions used) or "Source Association". 2) Take out the note, and use "Identification" rather than "Source Identification", as I believe most of the concerns are addressed in Section 5.	Reject. FRCB consensus is to continue to use terms "identification" and "exclusion."
192	4.7	t	"substantially more probable" would appear to lie between these rather than being greater then "much more probable". Proposal is to reorder the expressions. Choice of wording should actually be based on research as to how the wording is interpreted by potential jury members, e.g., Thompson et al (2018). REFERENCE: Thompson W.C., Grady R., Lai E., Stern H.S. (2018). Perceived strength of forensic scientists' reporting statements about source conclusions. *Law, Probability and Risk* , 17, 133–155 http://doi.org/10.1093/lpr/mgy012	Reorder the expression as: • The observed properties of the two friction ridge impressions are much more probable if they came from different sources than if they came from the same source. • The observed properties of the two friction ridge impressions are substantially more probable if they came from different sources than if they came from the same source. • The observed properties of the two friction ridge impressions are slightly more probable if they came from different sources than if they came from the same source. • The observed properties of the two friction ridge impressions are equally probable irrespective of whther they came from the same source or from different sources. • The observed properties of the two friction ridge impressions are slightly more probable if they came from the same source than if they came from different sources. • The observed properties of the two friction ridge impressions are substantially more probable if they came from the same source than if they came from different sources. • The observed properties of the two friction ridge impressions are much more probable if they came from the same source than if they came from different sources.	Reject with modification. FRCB consensus is to use no more than 5 categories.

#	Section	Type of Comment (E-	Comments	Proposed Resolution	Final Resolution
40	5	T	The first sentence states, in part, "…shall be included." What does this mean? Are these limitations to be part of the written report, or are examiners simply supposed to keep these limitations in mind as they write the report?	Reword to clear ambiguity.	Accept. Section has been edited.
45	5	T	Next to last bullet (statement beginning "Whenever categorical…") The discussion of bins and thresholds is a fundamental quality of categorization and need not be explicitly stated here. It seems that the pertinent qualification being made here is related to the inherent subjectivity of latent print examinations and not directly to categorization.	Recommend replacing this statement with the following "Latent print examinations are subjective in nature"	Accept with modification. This language has been added to section 4.1.
46	5	T	Last bullet (statement beginning "Likewise there…") The discussion of "sub-bins" is too granular for a general qualification statement. Furthermore, as the NWP referencing the example categories was not approved, the included example is not appropriate. It seems that the qualification intended here is that latent print examinations vary in terms of complexity, but I question that such a pronouncement is actually needed.	Recommend removing this statement. If not removed, replace with "Latent print examinations vary in complexity"	Accept.
77	5	T	The first bullet point includes the word "individualization" which is not defined. This makes the statement unclear as there is no indication of how the term "individualization" in this statement differs from the term "identification"	replace the word "individualization" to "identification"	Reject. Dictionary definition of individualization is being used, so a technical definition is not necessary. Also, we do not want to define a term we say not to use.
78	5	T	the fourth bullet is not always an option when testifying and should be reworded	reword to say: An examiner shall not cite the number of friction ridge comparisons performed in their career as a measure for the accuracy of a conclusion offered in the case at hand in an examination report.	Reject. It is an option not to cite it as a measure for accuracy.
79	5	T	No qualification or limitation related to an Investigative Lead generated from an AFIS search	add the following under Section 5: If an investigative lead is being reported out on an Inconcluisve AFIS candidate, it shall be noted on the report that the investigative lead does not assert or imply an Identification to the reported candidate.	Reject. It should be evident that an inconclusive conclusion is not a source identification.
88	5	T	use of "his or her" is offensive as it implies a binary non supported by science	replace "his and her" with the gender neutral term "their"	Accept.
89	5	T	missing an ending paranthetical in the last bullet	add another ending parenthetical to close out example properly	Reject with modification. This language has been deleted.
154	5	E	Change the list of qualifications / limitations to be numbered, so they can be referred to more easily.	Change the list of qualifications / limitations to be numbered, so they can be referred to more easily.	Accept.
161	5	T	Stating that thresholds will be used to determine the decision of a conclusion limits the amount of detail looked at in the latent when making said decisions, since the presence of scars, ridge/pore structure, and distortion is not easily quantifiable	Remove threshold standard, allow FSP's to determine how to make the conclusion decision	Accept. Threshold langiuage removed.
169	5	T	What are the "bins" to which the document refers in the last 2 bullet points? It's unclear.	If the "bins" are the source conlusions described in Section 4.1 and represented in Figure 1, perhaps reference the term "bins" in that section as well so the connection is clear.	Accept with modification. The little that is left of this language has been moved to section 4.1.

#	Section	Type of Comment (E-	Comments	Proposed Resolution	Final Resolution
193	5	t	"– Whenever categorical conclusions or “bins” are used there will be a threshold for those bins and a subjective decision is made as to what side of the threshold the decision lies. – Likewise there might also be sub bins within the category as not all conclusions are considered the same. (e.g., basic/advanced/complex source identifications (complexity of comparisons)." These sentences do not include requirements or recommendations.	Delete these sentences.	Accept.
195	5	T	I disagree that "an examiner shall not assert that two impressions were made by the same source."	If this is referring to cumulative simultaneous impression comparisons, then it needs to be re-written to be much clearer regarding this reference. Otherwise, I don't understand why we are being restricted from asserting that two impressions were made by the same source.	Reject. FRCB consensus is that same source conclusion is always uncertain.
196	5	T	I do not understand the connection between assertion that "two impressions were made by the same source" and the restriction to "imply an individualization to the exclusion of all other sources."	Please separate these two unrelated concepts onto their own lines.	Reject. FRCB perceives them as equivalent statements.
197	5	E	Remove "individualization" from first limitation statement. It is not defined in the document.	Replace with "identification," which is defined	Reject. Dictionary definition of individualization is being used, so a technical definition is not necessary. Also, we do not want to define a term we say not to use.
220	5	T	Whenever categorical conclusions or 'bins' are used there will be a threshold for those bins and a subjective decision is made as to what side of the threshold the decision lies. So it is precisely the subjective decisions about the threshold of these bins where the human factors/potential bias can sneak in.	Define the threshold so the decision can be more objective.	Reject with modification. This language has been deleted.
225	5	T	examiner shall not use certainty as an expression of accuracy is ambiguous. Is it saying an examiner shouldn't say they are 100% it was made by this person or that they shouldn't say they are 100% certain in their conclusion? Is it okay if an examiner says they're 100% confident in their conclusion but they acknowledge that doesn't mean they are right.	This needs to be clarified and fully state what is meant. An example would also help with the explanation.	Accept. Statement has been clarified.
245	5	E	Add comma after the word likewise.	Add comma after the word likewise.	Reject with modification. This language has been deleted.
250	5	T	The 2nd to last and last bullet points discuss "bins" - is this simply in reference to the conclusions that can be made? "Bins" seems like an uneccessary term.	Clearly define or change the word "bins" or use it more frequently in the document so it's clear what is being referenced.	Reject with modification. This language has been deleted.
253	5	T	I total disagree with not stating a same source conclusion , it strips the whole meaning of our work if you can not state that a print was made by one individual and one alone	I would remove this from the document	Reject. FRCB consensus is that same source conclusion is always uncertain.
254	5	T	I also disagree with forbidding using a degree of scientific certainty as there have been scientific studies to support the chances of two prints not being from a different individual when you have a number of characteristics in the same relative positions	I would remove this from the document	Reject. Disuse of "reasonable degree of scientific certainty" has been recommended by National Commission on Forensic Science.
259	5	E	The last bulleted note needs an additional parenthesis at the end.	Insert necessary parenthesis	Reject with modification. This language has been deleted.

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287	5	T	The limitations are not limitation for using these conclusions, they are for the discipline in general and mostly for articulation and are outside the bounds of this document. This results in this information just being filler.	Remove limitations that are outside the bounds of using these conclusions, and outside the bounds of the topic title. Add limitations of using these conclusions, such as 'there is no criteria for each of these conclusions at this time, making them highly subjective conclusions'.	Reject with modification. Purpose of section as a list of prohibited statements has been clarified. FRCB consensus is that there is a value to including these in this document.
291	5	T	The word individualization is used in the first bullet which implies 'individualize' is a possible conclusion.	If the word individualize is the same as 'source identification' or 'same source' then it would be best to be consistent with prior wording. If individualize is different then it should be defined. Add individualization to the possible conclusions.	Reject. Dictionary definition of individualization is being used, so a technical definition is not necessary. Also, we do not want to define a term we say not to use.
292	5	T	The 3rd bullet says friction ridge 'examinations' are not infallible. I am assuming it is intended to say friction ridge 'conclusions' are not infallible.	Change 'examinations' to 'conclusions'.	Accept.
293	5	T	The 6th bullet says: Whenever categorical conclusions or “bins” are used **there will be a threshold for those bins** and a subjective decision is made as to what side of the threshold the decision lies. This is contradictory because if there is a threshold then there is no need for a subjective decision.	State the threshold or change to clearly indicate that no threshold exists and that is why a subjective decision is made.	Reject with modification. This language has been deleted.
294	5	T	The last bullet says: Likewise there might also be **sub bins within the category** as not all conclusions are considered the same. (**e.g., basic/advanced/complex** source identifications (complexity of comparisons). I don't think sub bins are a limitation; perhaps it is a limitation of this standard that sub bins are not identified within each conclusion.	Sub bins need to be stated within each conclusion, OR restate the limitation to indicate it is a limitation of this standard not a limitation within the discipline.	Reject with modification. This language has been deleted.
302	5	T	"When one of the five conclusions is reached the following qualifications and limitations are also held in concert with these conclusions and shall be included."	Included where? Hopefully not in every report -	Reject with modification. Purpose of section as a list of prohibited statements has been clarified.
303	5	T	Whenever categorical conclusions or “bins” are used there will be a threshold for those bins and a subjective decision is made as to what side of the threshold the decision lies.	move to strike - unless ASB can give more guidance on developing displine wide thresholds for the "bins" or maybe rephrase to say "Whenever categorical conclusions or “bins” are used, a subjective decision is being made by the analysts involved as to which "bins" and to what side of the threshold the decision lies.	Accept.
304	5	T	Likewise there might also be sub bins within the category as not all conclusions are considered the same. (e.g., basic/advanced/complex source identifications (complexity of comparisons).	move to strike or rephrase similar to above. These types of policies/understandings are more appropriate in methods/quality manuals and in testimony.	Accept.
309	5	T	What are the "categorical conclusions or bins" being reference here refering to? How should the thresholds be established or defined?		Accept with modification. This language has been deleted.
318	5	T	It is unclear what is meant by "shall be included." Does this mean that the 7 bullet points are to be included in the report with the previous 5 conclusions? Or is it meant to direct examiners not to state or imply the 7 bullet points? If a "shall" is being utilzed here, it should be more specific what the intended action by examiner is.	Clarify what "shall be included" means. If it is meant as statements examiners can't say or imply then specifcally state that.	Accept with modification. That phrase has been deleted.

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329	5	T	Opening sentence explains that the qualifications and limitations statements "shall be included", but does not say whether this is to be included in a report or in the supporting documentation.	Clarify where these statements are to be listed (report or supporting documentation).	Accept with modification. Purpose of section as a list of prohibited statements has been clarified.
332	5	T	"the following qualifications…shall be included". I'm unclear where they shall be included - in SOPs, every report, specifically stated during testimony?	Reword or specify what is meant by "shall be included". Since I'm unsure how this was intended, I don't know that I can offer a suggestion for what that rewording should be.	Accept with modification. That phrase has been deleted.
360	5	E	Please refer to the comments made to the Foreword and Section 4. Specifically, but not exhaustively, this section should require additional caveats regarding the lack of frequency / variability data, the lack of testing of new "support for" conclusions if retained, and the absence of statistical / probability models. Because they have caused substantial problems within the latent print discipline specifically and do not enjoy scientific support, this section should specifically prohibit use of the terms "practical certainty" and "practical impossibility," reference to the possibility of error as "negligible," and characterization of prints as unique. *See e.g.* Simon A. Cole, *"Individualization is dead, long live individualization! Reforms of reporting practices for fingerprint analysis in the United States ,"* 13 Law, Prob., & Risk 117, 144 (2014); *see also* William Tobin & Peter Blau, *"Hypothesis Testing of the Critical Underlying Premise of Discernible Uniqueness in Firearms-Toolmark Forensic Practice "* 53 Jurimetrics 121, 131 (2013); Mark Page *et al. , "Uniqueness in the Forensic Identification Sciences-Fact or Fiction?"* 206 Forensic Sci. Int. 12, 15 (2011).	Please refer to the proposed resolutions for the Foreword and Section 4, and include the additional caveats noted in the comments to this section.	Accept with modification. A statement about subjectivity has been added to Section 4.1. Statements about practical certainty, "practical impossibility," and "unique" have been added
155	8.5	E	comma needed between words 'forensic' and 'government'	insert necessary comma	Reject. There is no section 8.5 and no use of the term "forensic government" in the document.
228	Annex section	T	All of the examples seem to include a numerical value to support their premise. The field has try to get away from the concept of "point counting" for years since there is much more taken into consideration.	These examples should be reworked and discuss things like area of the print (tip, pattern force area, etc.), type of minutiae, combination of minutiae, etc. Studies showing the frequency and rarity of types of minutiae and their combinations would lend themselves to the support given for the various conclusions.	Reject with modification. The purpose of this annex is to assist readers' understanding by illustrating situations in which each conclusion might be used. They are just examples and are not to be used to test conformance. This list is not representative of all possible situations that would justify a particular conclusion. Each conclusion used by an FSP needs to be supported based on FSP requirements. Clarifying language and qualifiers added and, where possible, specific numbers changed to broad verbal characterizations.
288	Annex (now Annex B)	T	The examples are highly subjective showing how a person MIGHT use the conclusions, they are not examples of how a person SHOULD use the conclusions.	Remove examples until a document stating how to use these conclusions is developed. Hold this document until a method is presented on how each conclusion is to be used.	Reject. Moving forward with document.
32	Annex A (now Annex B)	E	"The unknown friction ridge impression is a clear whorl pattern with a distinctive core and no distortion or interpretation issues noted. The exemplars utilized for comparison of this source contained no whorl type patterns, and I therefore concluded that the impression could not have been left by the source being compared. This statement may work for a traditional examiner but it may not work as well for one using a statistical software.	The use of "could not" in this example eliminates any possibility of uncertainty. The use of "highly unlikely" could work better for an examiner using statistical software.	Accept.

#	Section	Type of Comment (E-	Comments	Proposed Resolution	Final Resolution
33	Annex A (now Annex B)	E		In Annex A there are examples that seem to be better for examiners performing traditional comparisons and those using statistical software. It would be helpful to indicate examples that should be traditional examiners and examiners using statistical software.	Reject. This is ASB style
39	Annex A (now Annex B)	t	All expamples that are listed for possible comparison. Unsure if this for how to address our reports or to be used in our notes. I don't know if the individuals who wrote this have ever had a case with 25 prints of value and 9 people to compare. This would be a terrible long report and would not be understood easily by our clients. It also suggest that we have a point standard or certain criteia that we use to make idnetifications.	I suggest getting rid of the numbers and keeping information in our reports clear and not lengthy. I also suggest getting rid of anything that has a value to it. We do not have points standards and I do not feel comfortable putting that on a report or even notes when it could be used against me in court.	Reject with modification. The purpose of this annex is to assist readers' understanding by illustrating situations in which each conclusion might be used. They are just examples and are not to be used to test conformance. This list is not representative of all possible situations that would justify a particular conclusion. Each conclusion used by an FSP needs to be supported based on FSP requirements. Clarifying language and qualifiers added and, where possible, specific numbers changed to broad verbal characterizations.
61	Annex A (now Annex B)	T	The first two examples given for Inconclusive are incomplete examinations. This leads two 2 different definitions for Inconclusive which makes the document confusing and unclear.	Examples of Inconclusive should be specific to actual examinations performed to be in line with definition for a conclusion. The first two examples should be removed.	Reject with modification. Clarifying language added.
62	Annex A (now Annex B)	T	The third example given for SSS is an incomplete example	The third example should be removed	Reject with modification. Clarifying language added.
70	Annex A (now Annex B)	T	examples of SDS and SSS are treated as standalone conclusions when they should be incorporated into an Inconclusive conclusion	move examples of SDS and SSS under examples of Inconclusive	Reject with modification. Titles of the 2 intermediate conclusions have been changed to "inconclusive with . . ."
80	Annex A (now Annex B)	T	use of the words "substantial", "strong", "weak", and "overwhelming" are vague and misleading in the examples given	remove use of the terms "substantial", "strong", "weak", and "overwhelming" from examples	Reject. These examples are not intended to be language used in reports.
81	Annex A (now Annex B)	T	Several examples includes use of the first person	reword examples to only include aspects of the data considered	Accept
82	Annex A (now Annex B)	T	the first example given under SSS is inappropriate and problematic. SSS implies an examination is close to being an ID and there is no support that 2 ridge endings in a tip has that level of specificity. This example will lead to associating individuals based on data that is common among large portions of the population. It is an overstated example with the potential of being used to falsely associate individuals to evidence with no support	remove this example from the document	Reject with modification. Example clarified. To be clear SSS does not imply almost ID. This is why an example with weak support was provided.
83	Annex A (now Annex B)	T	the word "informative" under Annex A is unnecessary as the first statement in Annex A states that the examples are informative	remove "(informative)" from under Annex A	Reject. ASB Style
84	Annex A (now Annex B)	T	Inconsistent use of a comma after "i.e." in examples	add a comma after each instance of "i.e." for consistency	Accept
85	Annex A (now Annex B)	T	bracket used instead of a parenthetical in the first example given under Inconclusive	use a parenthetical instead of a bracket for consistency	Reject with modification. Fixed in accordance with ASB style.
86	Annex A (now Annex B)	T	presence of "For example" not needed after the conclusion titles since the first statement in Annex A states that everything below is an example	remove "for example" after each conclusion in Annex A	Reject. The informative nature of examples was not clear to many other commenters.

#	Section	Type of Comment (E-	Comments	Proposed Resolution	Final Resolution
95	Annex A (now Annex B)	T	The conclusion examples are extremely detailed and complex.	Remove these lengthy examples or at least make it clear we are not held to this type of report conclusion so we are not unintentionally forced to do so by an accrediting body.	Reject with modification. The purpose of this annex is to assist readers' understanding by illustrating situations in which each conclusion might be used. They are just examples and are not to be used to test conformance. This list is not representative of all possible situations that would justify a particular conclusion. Each conclusion used by an FSP needs to be supported based on FSP requirements. Clarifying language and qualifiers added and, where possible, specific numbers changed to broad verbal characterizations.
173	Annex A (now Annex B)	T	Nearly all the examples provided include some sort of numerical reference/criterium. My concern is this is getting dangerously close to a numerical standard. I share this concern to make sure ASB is not pushing the discipline in this direction, given the qualitative nature of what this standard purports to cover.	Remove numerical references from examples.	Reject with modification. The purpose of this annex is to assist readers' understanding by illustrating situations in which each conclusion might be used. They are just examples and are not to be used to test conformance. This list is not representative of all possible situations that would justify a particular conclusion. Each conclusion used by an FSP needs to be supported based on FSP requirements. Clarifying language and qualifiers added and, where possible, specific numbers changed to broad verbal characterizations.
174	Annex A (now Annex B)	E	Formatting inconsistencies between the presence and lack of commas following "(i.e)"	Add necessary commas after i.e. in: SDS (first 2 examples) and Source Identification (first example)	Accept
175	Annex A (now Annex B)	E	Should "i.e" (that is) actually be "e.g" (for example)?	Make the change to e.g. if that is the correct abbreviation to use.	Reject. These are explanations, not examples.
251	Annex A (now Annex B)	T	It states these are "Examples" but what are these examples to be used for? Is this the type of documentation expected in our notes for each and every print examined? While incredibly thorough, this type of documentation is not realistic for normal casework.	Clarify what these examples are for AND make it clear that we are not held to this type of documentation standard so that no accrediting body can require us to note this type of detailed information.	Accept with modification. The purpose of this annex is to assist readers' understanding by illustrating situations in which each conclusion might be used. They are just examples and are not to be used to test conformance. This list is not representative of all possible situations that would justify a particular conclusion. Each conclusion used by an FSP needs to be supported based on FSP requirements. Clarifying language and qualifiers added and, where possible, specific numbers changed to broad verbal characterizations.
263	Annex A (now Annex B)	T, E	The term "overwhelming correspondence" is confusing. It is not clear that readers of a forensic science report will know what that means. If this term is to be used in reporting it should be defined in this standard. If, as I expect, there is no objective definition of this term, and it refers simply to the examiner's impression that the observed data are very much more likely under the proposition of same source than different source, then the reporting language should make that clear. Otherwise, readers of reports are likely to be misled.	Change the phrase "Similar overwhelming correspondence..." to "Such substantial correspondence.. " wherever it occurs in the Annex. Also, eliminate the use of passive voice (e.g., "...would not be expected...") and rewrite all such sentences in active voice to communicate that the expectations in question are those of the examiner. For example, change "Similar overwhelming correspondence would not be expected in a different source" to "The examiner would not expect to observe such substantial correspondence in impressions from a different source."	Accept with modification. "Similar" changed to "such." Changed to "the examiner" in some places. In other places, passive voice used to signal objectivity. These examples are not intended to be language used in reports.

#	Section	Type of Comment (E-	Comments	Proposed Resolution	Final Resolution
305	Annex A (now Annex B)	T	Would like ASB to give further guidance on if these "examples" is related to notes or reports.	I am NOT in favor of these types of "examples" being used in reporting.	Reject with modification. The purpose of this annex is to assist readers' understanding by illustrating situations in which each conclusion might be used. They are just examples and are not to be used to test conformance. This list is not representative of all possible situations that would justify a particular conclusion. Each conclusion used by an FSP needs to be supported based on FSP requirements. Clarifying language and qualifiers added and, where possible, specific numbers changed to broad verbal characterizations.
306	Annex A (now Annex B)	T		If these examples stand - would like to see it phrased more like "If you have a situation where the unknown friction ridge impression is a clear whorl pattern with a distinctive core and no distortion or interpretation issues noted. The exemplars utilized for comparison of this source contained no whorl type patterns, and you therefore concluded that the impression could not have been left by the source being compared." then report out as "Source Exclusion" or Source - Exclusion, i.e., Substantial disagreement observed, evidence is in support for Source EXC."	Accept.
335	Annex A (now Annex B)	T	While I understand the purpose of Annex A I found some of the examples a little unrealistic. I am not sure two ridge endings in a tip constitutes SSS, weak or otherwise. Likewise, I would argue that unless it can be shown with data, five points around a delta is not strong support for same source. With no evidence against and five points around a delta, SSS seems appropriate but that qualifier of strong does not.	Again, data needs to drive the use of low or high in the degree of support for the SSS and SDS categories. Once an effective way to measure the support exists, then the low and high qualifier can be used. Furthermore, the SSS examples should be reworked. The example of the five points around the delta of the index finger and the six points in the hypothenar area are good but the others are not. I would also suggest that the AFIS example be removed unless it is to advocate for the use of a investigative lead. If that is the case it should be better explained and possibly add a disclaimer about using SSS from a database. However, six points around a delta does not, in my view, warrant a strong SSS and I would be very hesitant, even as an investigative lead, to release it in a report as such.	Accept with modification. Examples clarified. To be clear, SSS does not imply almost ID.
336	Annex A (now Annex B)	T	The use of the inconclusive category should be reworked. The five categorical conclusions should be seen as terminal conclusions. When all of the data and examplars has been collected and available then a terminal conclusion can be made. If exemplars are needed the examination cannot be completed and therefore a terminal conclusion cannot be reached. This is a distinct category from inconclusive.	The use of a term similar to incomplete should be used when additional exemplars, tips, palms, feet, etc. are needed to complete the examination. Inconclusive is used as a terminal conclusion when nothing new would help in the decision making process. Using a category like incomplete should relay the idea that until the area needed is provided the examination cannot be completed.	Reject. Each conclusion used by an FSP needs to be supported based on FSP requirements.

#	Section	Type of Comment (E-	Comments	Proposed Resolution	Final Resolution
343	Annex A (now Annex B)	T	One issue within this document is the inclusion of the word “discriminability.” Research shows that there are certain key words within the English language that have a negative impact on the cognitive thought processes of an individual, thus affecting his/her emotional response to the word, the phrase, or even the individual stating such words. The word “discriminability,” as a derivative of “discriminate” – a word with a long-standing history of injustice – is just such a key word (also referred to as a “target word”). It then stands to reason that there is a high risk that a juror hearing a word such as this would have a negative emotional response to the expert witness using such language. Such an emotional response could range from mild discomfort to a complete shut-out of the entire testimony.	Use a different word - perhaps some variation of "differentiate" or "distinguish"	Reject. This term is defined in TR 016
361	Annex A (now Annex B)	E	Please refer to the comments made to the Foreword and Section 4.	Please refer to the proposed resolutions for the Foreword and Section 4.	Reject. These examples are not intended to be language used in reports.
372	Annex A (now Annex B)	T	See comment above	Change to implement the suggestion above.	Reject. FRCB consensus is to continue to use terms "identification" and "exclusion."
333	Annex A (now Annex B), Support for Same Source, third example	T	"The lack of correspondence was due to the limited quality and quantity of information observed in the **exemplar**, the provision of further exemplars may assist in supporting a different conclusion." This is getting into dangerous territory in my opinion - you could report support for same source, request different exemplars, and then report an exclusion - especially in this specific example of 5 ridge endings around a delta. That can potentially lead to confusion. Worse, if the agency never sends in the exemplars that would have led to an exclusion, the "support for same source" report could end up in court and be completely misleading.	Any comparison that could be helped by the provision of further exemplars should only be reported as inconclusive (with the request for a specific area of friction ridge skin if some amount of correspondence was observed).	Reject with modification. If an SSS can be reached with existing information, but additional standards may allow a stronger conclusion, this is not an Inconclusive. Clarifying language added.
260	Annex A (now Annex B) Support for Same Source	E	Period needed at the end of the "i.e. statements" in the last two segments.	Insert necessary periods	Accept
216	Annex A (now Annex B) 4.3	E	Finish the sentence after "There were no observable anchor points…in the latent impression." with a period. Also add a comma after the word "observations" - "From my observations,…"	Split the run on sentence	Accept
226	Annex (now Annex B) section 4.3	T	This example doesn't seem to make sense. If the examiner isn't sure the target group is actually present in the latent why wouldn't they move to a different target group?	The example isn't helpful and should be removed.	Accept with modification. Language clarified. That is the only target group.
217	Annex A (now Annex B) 4.4	E	Insert the word "however" in the sentence "The suspected area of friction ridge detail was not available or represented in the provided exemplars; however, the provision of further exemplars may support a different conclusion."	Insert conjunction	Accept

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275	Annex A (now Annex B); 3rd example of SDS	T	This example of Support for Different Source conflicts with 4.3, the criteria for SDS, which states that observable dissimilarities need to exist.	Remove this example since it does not have the requirements stated.	Accept
277	Annex A (now Annex B); all examples of SDS	T	These examples are extremely subjective and based on assumptions. Words like ambiguous, not confident, and suspected area and orientation are used instead of having the area and orientation be clearly evident.	Remove examples of SDS since they are not based on data, they are based on assumptions and guesswork.	Reject. These examples are not intended to be language used in reports.
227	Annex section 4.5	T	This example seems to say that two ridge endings in correspondence and no other information should be support for same source. This seems extremely dangerous. We all know that two ridge endings in correspondence can be found in a latent impression and known print from different sources. Using this limited information to suggest support for same source is ridiculous and has the potential to bias the end user.	This example should be removed.	Reject with modification. Example clarified. To be clear, SSS does not imply almost ID. This is why an example with weak support was provided.
218	Annex A (now Annex B) 4.5 (page 8)	E	Insert the word "thus" in the sentence "The lack of correspondence was due to the limited quality and quantity of information observed in the latent impression, thus the provision of further exemplars will not assist in supporting a different conclusion."	Insert thus (or equivalent word).	Accept
219	Annex A (now Annex B) 4.5 (page 9)	E	Insert the word "thus" in the sentence "The lack of correspondence was due to the limited quality and quantity of information observed in the exemplar, thus the provision of further exemplars may assist in supporting a different conclusion."	Insert thus (or equivalent word).	Accept
107	Annex A (now Annex B), pg. 9	E	Punctuation needed at the end of the sentence of the paraphrased section for 4th example	Insert a period after the sentence, "On balance, the evidence in support is insufficient for a Source ID due to latent"	Accept
108	Annex A (now Annex B), pg. 9	E	Comma needed between words "impression" and "however" in 1st sentence of 5th example	Insert necessary comma	Accept
109	Annex A (now Annex B), pg. 9	E	Punctuation needed at the end of the sentence of the paraphrased section for 5th example	Insert a period after the sentence, "On balance, the evidence in support is insufficient for a Source ID due to AFIS"	Accept
110	Annex A (now Annex B) pg. 10	E	2nd example: comma needed between the words "detail" and "including" in 1st sentence	Insert necessary comma	Accept
111	Annex A (now Annex B) pg. 10	E	2nd example: remove comma between "i.e." and "Substantial"	Remove unnecessary comma	Reject with modification. Commas added elsewhere for consistency.

#	Section	Type of Comment (E-	Comments	Proposed Resolution	Final Resolution
112	Annex A (now Annex B) pg. 10	E	3rd example: remove comma between "i.e." and "Substantial"	Remove unnecessary comma	Reject with modification. Commas added elsewhere for consistency.
156	Annex B (now Annex C)	E	No definition of what NGI stands for	Define NGI acronym	Accept with modification. Acronym deleted.
373	Annex B (now Annex C)	E	If "[t]he goal of the bibliography is to provide examples of publications addressed in the standard," it should be deleted. Maybe I missed it, but is either publication mentioned in the standard?	Rewrite the sentence to state what the sentence is intended to say. I am not sure what that is.	Accept with modification. Bibliograpjy deleted.
374	Annex B (now Annex C)	T	A bibliography should lead the reader to materials that will clarify or justify (along with those that dispute) the choices made in the standard. This skimpy bibliography does neither.	Either expand the bibliography to meet normal scientific standards for a bibliography or pick out a few references that are the most important in the field (including, I would have thought, the book by Champod et al.), or just forego having a bibliography.	Accept. Bibliograpjy deleted.
289	Bibliography	T	The references do not seem to be relevant.	Either reference in the document where each are applicable or remove the references.	Accept. Bibliograpjy deleted.
90			As to whether or not to report out conclusions in "support for different sources" or "support for same source" should be a decision made by the reporting agency if they wish to include this range of conclusions. For those agencies that do wish to add this range of conclusions it should be required that the conclusion be qualified "that the result of this conclusion is only being provided for investigative purposes and that it should be understood that the comparison does not carry enough weight for source attribution or exclusion". The reason for qualification is my personal belief that running a course down this road could ultimately lead to many miscarriages of justice without the qualification.		No resolution proposed. Titles of the 2 intermediate conclusions have been changed to "inconclusive with . . ."
97			I just have a comment on the prospect of 5 conclusions instead of 3. I think it is confusing and would be more difficult to explain in court or to officers. Part of the problem is that all examiners are not on the same page with terminology this just makes things more confusing. I like having only 3 conclusions		No resolution proposed. Titles of the 2 intermediate conclusions have been changed to "inconclusive with . . ."
165	Linked to comment 163 and 164		There can be no value for either of these inconclusive results. The only way these could be interpreted beyond the inconclusive result could be potentially damaging to a viable defense or prosecution, without merit.		No resolution proposed. Titles of the 2 intermediate conclusions have been changed to "inconclusive with . . ."

#	Section	Type of Comment (E-	Comments	Proposed Resolution	Final Resolution
342			I don't feel this document is ready for publication because there are many items that still need to be fixed or improved. Some examples include: -The definitions are not in alphabetical order (resolution: put in correct order) -I feel the definition of mutually exclusive is not correct. The current definition does not say that the two propositions cannot occur at the same time. Also, if mutually exclusive is being defined, I feel that it should be listed as an independent definition, not simply defined within another definition. (resolution: put as a definition and correct the definition) -I feel that the difference between 'source identification', 'same source', and 'individualization' is not clearly stated. As an example, is 'support for same source' meaning 'support for source identification'? If these terms are being used differently then they should each be defined (which they are not). (resolution: words/phrases that are being used very specifically need to be defined to ensure the correct words are being used in the appropriate instance) -I don't see how the references are relevant (resolution: reference where these are relevant within the document) -I feel that 'support for same source' and 'support for different source' are both biasing the end user towards a conclusion (resolution: use wording for conclusions that is not biasing - i.e., change to 'consistency exists but not a sufficient amount to indication a potential source' and 'no consistency found, but does not mean that no consistency exists'). -I do not feel that giving options to use some or all of these conclusions meets the definition of a standard (or a best practice) since it does not state which conclusions are required (or best to use) (resolution: state which conclusions are required to be use and when they should be used)		- Accept. Alphabetized; - Reject. Dictionary definition of "mutually exclusive" is intended; - Reject. "support for same source" is not "support for source identification." "Same source" is a proposition, and "source identification" is a conclusion. Definitions are provided; - Accept; - Accept with modification. Titles of the 2 intermediate conclusions have been changed to "inconclusive with . . ." ; - Reject. Examiners are not required to report any conclusion.