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November 19, 2021

RE: ASCLD Supplemental Comments to Draft of DNA Mixture Interpretation: A NIST Scientific Foundation Review (NISTIR 8351-DRAFT)

The American Society of Crime Laboratory Directors (ASCLD) has over 700 members comprised of crime laboratory directors, managers, and supervisors from the United States and around the world. The membership consists of scientists and law enforcement officers whose major function is the management of a forensic science laboratory, as well as educators and instructors in forensic science. As such, we are well-versed in the need and requirement to validate new technologies before incorporating them into standard laboratory protocol and practice. Validation of DNA mixture interpretation, including software, is no exception. ASCLD provided public comments on the first NIST public solicitation regarding this report. NIST then posted a second solicitation “to receive additional comments, new data, or information” found at: <https://content.govdelivery.com/accounts/USNIST/bulletins/2f8b05e>, “Second Public Comment Period for NISTIR-8351-DRAFT Report: Oct. 22 to Nov. 19, 2021.” The NIST draft report attempts to conduct a foundational review of the methods used to interpret DNA mixtures. ASCLD made initial comments in a previous document dated August 14, 2021 and is providing additional public comments in this document.

The authors of the draft report conducted a “google search” and reviewed only data which was publicly available. This is not an effective method of acquisition as it relates to data from forensic science service providers. When forensic laboratories conduct validation or performance verification studies, they typically create ground truth datasets from items they have purchased or can directly verify the source. This includes the various bodily fluids used in the validation and development of the DNA mixture interpretation methods. Typically, laboratory staff and organizational employees and their families are the source of these fluids for validation purposes. The public release of the genetic information of our

laboratory staff and other sources is legally prohibited per the federal Genetic Information Nondiscrimination Act of 2008 (GINA). We do not object to making the data available for review by qualified experts with legitimate interest; however, we advocate doing this in an informed and responsible manner that is based upon compliance with federal law, state and local law and policy, case law, and state records request statutes. Laboratories have published executive summaries and journal articles referencing the source data, but are subject to federal, state, and local law regarding public release of the data itself.

A very brief, informal, preliminary poll of ASCLD member laboratories resulted in twelve (12) state, six (6) county, and five (5) city laboratories willing to make the data available for review as long as the underlying validation data is protected from public disclosure per GINA regulations. These volunteer laboratories extend from the East Coast to the West, and include several of the largest states by population. A more formal poll may increase that number significantly.

ASCLD would like to invite the NIST foundational study authors, along with team members or contracted staff who have forensic DNA mixture casework and auditing experience, to visit ASCLD member laboratories on-site to view their validation data. This exercise would surely assuage the authors' concerns about a lack of data in this area. Because of the ongoing need to protect the genetic information of staff members and other participants who provided samples for validation purposes without disclosure agreements, we would ask that prior to the onsite visit, individuals reviewing the data sign an MOU. This practice has been effectively used by laboratories during external audits to protect the security and confidentiality of casework data that is reviewed by external auditors. In addition to a signed MOU, we also request that if the authors intend to review this data with evaluation criteria that differs from that already used and discussed in the draft DNA mixture publication, that NIST provide specific criterion upon which DNA mixture validation studies will be evaluated. That allows the laboratory to efficiently provide the NIST researchers with the exact data they are seeking in a usable format. Finally, ASCLD requests that the NIST or NIST contracted reviewers and auditors provide the results of the individual laboratory evaluations to the individual forensic laboratory outside of the public forum to facilitate constructive dialog between the ASCLD member laboratory and the NIST representative regarding what is considered acceptable. ASCLD recognizes that there is no single authority on how to conduct validation work, and there can be differing, but equally valid, opinions among experts. Because of this, ASCLD member laboratories welcome feedback from NIST; however, it is not productive to have these types of discussions in a public setting.

In the future, NIST should consider creating an anonymized, national clearinghouse of validation data. NIST might also provide a validation outline and sample requirements, or provide the physical samples themselves, so all parties evaluate the methods and software in the same way. Common source materials would eliminate GINA issues, allow identification of individual participant issues, and provide more result consensus. NIST is highly skilled at providing quality reference materials for numerous technologies. As it is very difficult for

forensic science services providers to obtain biological sample sets, a NIST mixture interpretation sample set would be welcomed by forensic science service providers.

Validation of mixture interpretation methods for use in forensic laboratories has been extensive and appropriate. Data is available, just not in a public forum for legal reasons. We encourage the authors of the draft report to contact ASCLD for coordination with volunteer laboratories to provide access to the data within the provisions of federal law and in a manner that protects the confidential, personal, genetic information.

Thank you for the opportunity to comment on NISTIR 8351-DRAFT entitled *DNA Mixture Interpretation: A NIST Scientific Foundation Review* and also provide supplemental comments to our original submission.

Sincerely,

A handwritten signature in black ink that reads "Laura B. Sudkamp". The signature is written in a cursive, flowing style.

Laura B. Sudkamp
President
ASCLD