



AMERICAN SOCIETY OF CRIME LABORATORY DIRECTORS LABORATORY ACCREDITATION BOARD

June 22, 2016

Bill Gibbens, Manager
Forensic Science Division
Austin Police Department
P.O. Box 689001
Austin, TX 78768

Dear Mr. Gibbens,

On May 27-28, 2016 and June 6, 2016, ASCLD/LAB technical assessor Jody Koehler participated in an audit of the Austin Police Department Forensic Science Laboratory DNA Section in cooperation with the Texas Forensic Science Commission. As a result of the audit, Ms. Koehler identified eight (8) nonconformities to accreditation requirements. Those nonconformities are listed below to assist you as you make improvements to your biology program. Please refer to ISO/IEC 17025:2005 and the ASCLD/LAB-*International* Supplemental Requirements for the Accreditation of Forensic Science Testing Laboratories (2011) for the language of the cited requirements.

Nonconformity #1 to ISO/IEC 17025:2005 5.2.1

Previous Technical Leaders have not been properly qualified. Records did not demonstrate that one had kept abreast of technical developments and technologies utilized in the laboratory. Duties did not include signing reports or performance of technical reviews but did include making technical decisions about casework and determining if deviations from the standard operating procedure are technically justified and authorized. Another previous technical leader, while a proficiency tested DNA analyst, did not have the depth of technical knowledge to institute appropriate changes to the training manual or DNA standard operating procedures.

Nonconformity #2 to ISO/IEC 17025:2005 4.9.1 and 4.9.2

Procedures for nonconforming testing work and corrective action are not implemented when the lab became aware of discrepant testing results after retesting of a DNA swab occurred. In one example, the laboratory results identify that there is a carry-over contamination event between the epithelial cell fraction from the victim's vaginal swab and the epithelial cell fraction from a penile swab from an unrelated individual. The analyst reported that the victim could not be excluded from the epithelial cell fraction from the penile swab of the unrelated individual. The swab was retested by a private laboratory and generated a 2 person mixture where the victim was excluded. In another example, 10 different cases reviewed there was a reagent blank that was contaminated. In the reagent blank, there were 8 peaks above the lab's analytical threshold of 75 RFU. Peaks ranged in height from 103-744 RFU. The contamination was traced back to the analyst's extraction reagents. All results from these cases were reported without an evaluation of the significance and the acceptability of the data.

Nonconformity #3 to ISO/IEC 17025:2005 5.4.1

In a case there was a deviation in order to utilize the data from this case as a major/minor mixture. This data was also used for interpretation. The item had a quantity of DNA that was at 0.05025 ng amplified. This quantity of DNA is lower than the stochastic threshold stated in the APD DNA SOP. The SOP states that for mixtures (including major/minor) that for DNA quantities amplified below 0.0625, "The entire profile is uninterpretable." There is no documentation that technically justifies utilizing this profile for interpretation purposes and or that ensures that data at this quantity is sufficient for comparison purposes. There is no record that this aspect of the deviation was authorized.

Nonconformity #4 to ISO/IEC 17025:2005 5.4.5.2 and 5.4.5.3

While the quantification-based stochastic study was validated, the validation is lacking in robustness and evaluation of fitness for purpose. In the validation study, only 3 samples were utilized with 9 different dilutions (0.75-0.0029296 ng). Also, for the mixture portion of this validation, only 3 samples were utilized. Not all dilutions were made correctly as the equipment used was not appropriate for the volume measured. The validation data was not properly evaluated as it showed stochastic effects, even when >0.625 ng of DNA was amplified.

Nonconformity #5 to ISO/IEC 17025:2005 5.5.3

There were no instructions for maintenance of the alternate light source to ensure proper functioning. If the alternate light source is not functioning correctly, there is the possibility that biological stains may be missed.

Nonconformity #6 to ASCLD/LAB-*International* Supplemental Requirement for Forensic Science Testing Laboratories (2011) 5.1.3

The procedure for assessing continued reliability of the AP Spot Reagent does not ensure performance reliability. The manufacturer's instruction for the AP Spot Reagent is to "Make fresh daily". After preparation and initial reliability checking the reagent has been utilized for up to 1 month. Although analysts utilize the reagent in a quality control procedure each day of use, there is no supporting validation documentation for what a subjective "4+" result equates to as it relates to possible loss of reagent performance.

Nonconformity #7 to ASCLD/LAB-*International* Supplemental Requirement for Forensic Science Testing Laboratories (2011) 5.2.1.1

While the DNA section has a training program, it does not adequately cover forensic biology screening and DNA analysis. Through interviews it was determined that the analysts lack general knowledge on quality assurance procedures such as critical evaluation of data. A lack of knowledge was also identified regarding general DNA topics such as Hardy-Weinberg and how to calculate random match probability.



Nonconformity #8 to ISO/IEC 17025:2005 4.2.1 and 5.4.1

The laboratory's use of a quantification-based determination of stochastic threshold is not scientifically valid, nor supported by the forensic community. There are no peer-reviewed journal articles citing the acceptance of this type of methodology, especially for forensic DNA mixtures.

The laboratory's review and use of information from suspect or victim reference DNA profiles in the determination of which loci will be used in statistical calculations is not appropriate.

The current instructions for mixture interpretation are not sufficient to ensure the quality of the test results. The current procedure allows for inconsistency among the analysts performing mixture interpretation and is not sufficient to prevent incorrect interpretation.

I was advised prior to the audit that your laboratory had ceased providing DNA test results that involved mixture interpretation. Subsequent to the audit you contacted me for direction on how to voluntarily suspend the laboratory's accreditation in the biology discipline for a temporary period of time. As a result, the Austin Police Department Forensic Science Laboratory's scope of accreditation document was updated to reflect that the biology discipline is no longer accredited. The ASCLD/LAB website has also been updated to reflect this change. When the above nonconformities have been resolved and you are ready to extend the laboratory's scope of accreditation to include the biology discipline, please contact ASCLD/LAB so that we can determine the appropriate course of action.

If ASCLD/LAB can be of any assistance, please contact myself of Senior Accreditation Program Manager Laurel Farrell.

Best Regards,



Pamela L. Bordner
Vice President



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