Texas Forensic Science Commission

Justice Through Science

FINAL REPORT ON COMPLAINT BY DR. ROBERT COLLINS AGAINST TEXAS DEPARTMENT OF PUBLIC SAFETY (HOUSTON)

January 29, 2021

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I. COMMISSION BACKGROUND

A. History and Mission of the Texas Forensic Science Commission

The Texas Forensic Science Commission ("Commission") was created during the 79th Legislative Session in 2005 with the passage of HB-1068. The Act amended the Texas Code of Criminal Procedure to add Article 38.01, which describes the composition and authority of the Commission.[1] During subsequent legislative sessions, the Texas Legislature further amended the Code of Criminal Procedure to clarify and expand the Commission's jurisdictional responsibilities and authority.[2]

Texas law requires the Commission to "investigate, in a timely manner, any allegation of professional negligence or professional misconduct that would substantially affect the integrity of the results of a forensic analysis conducted by a crime laboratory."[3] The Commission is also required to develop and implement a reporting system through which a crime laboratory must report professional negligence or professional misconduct and require crime laboratories that conduct forensic analyses to report professional negligence or professional misconduct.[4]

The term "forensic analysis" is defined as a medical, chemical, toxicological, ballistic, or other expert examination or test performed on physical evidence, including DNA evidence, for the purpose of determining the connection of the evidence to a criminal action.[5] The statute excludes certain types of analyses from the "forensic analysis" definition, such as latent fingerprint analysis, a breath test specimen, and the portion of an autopsy conducted by a medical examiner or licensed

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[1] *See*, Act of May 30, 2005, 79th Leg., R.S., ch. 1224, § 1 (2005).
[2] *See e.g.*, Acts 2013, 83rd Leg. ch. 782 (S.B. 1238) §§ 1-4 (2013); Acts 2015, 84th Leg. ch. 1276 (S.B. 1287) §§ 1-7 (2015); TEX. CODE CRIM. PROC. art 38.01 § 4-a(b).
[3] TEX. CODE CRIM. PROC. art. 38.01 § 4(a)(3)(2019).
[4] *Id.* at § 4(a)(1)-(2). Additionally, pursuant to the Forensic Analyst Licensing Program Code of Professional Responsibility, members of crime lab management shall make timely and full disclosure to the Texas Forensic Science Commission of any non-conformance that may rise to the level of professional negligence or professional misconduct. See, 37 Tex. Admin. Code § 651.219(c)(5) (2018).
[5] TEX. CODE CRIM. PROC. art. § 38.35(a)(4).

physician.[6] The statute does not define the terms "professional negligence" and "professional misconduct." The Commission has defined those terms in its administrative rules.[7]

The Commission has nine members appointed by the Governor of Texas.[8] Seven members are scientists or medical doctors and two are attorneys (one prosecutor nominated by the Texas District and County Attorney's Association and one criminal defense attorney nominated by the Texas Criminal Defense Lawyer's Association).[9] The Commission's Presiding Officer is Jeffrey Barnard, MD. Dr. Barnard is the Chief Medical Examiner of Dallas County and Director of the Southwestern Institute of Forensic Sciences in Dallas.

B. Investigative Process

The Commission's administrative rules set forth the process by which it decides whether to accept a complaint or self-disclosure for investigation as well as the process used to conduct the investigation.[10] The ultimate result is the issuance of a final report. The Commission's administrative rules describe the process for appealing final investigative reports as well as any resulting disciplinary action against a license holder or applicant.[11]

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[6] For complete list of statutory exclusions see TEX. CODE CRIM. PROC. art. 38.35 (a)(4)(A)-(F) and (f).

[7] "Professional misconduct" means the forensic analyst or crime laboratory, through a material act or omission, deliberately failed to follow the standard of practice that an ordinary forensic analyst or crime laboratory would have followed, and the deliberate act or omission would substantially affect the integrity of the results of a forensic analysis. An act or omission was deliberate if the forensic analyst or crime laboratory was aware of and consciously disregarded an accepted standard of practice required for a forensic analysis. "Professional negligence" means the forensic analyst or crime laboratory, through a material act or omission, negligently failed to follow the standard of practice that an ordinary forensic analyst or crime laboratory would have followed, and the negligent act or omission would substantially affect the integrity of the results of a forensic analysis. An act or omission was negligent if the forensic analyst or crime laboratory should have been but was not aware of an accepted standard of practice. 37 Tex. Admin. Code § 651.302 (7) and (8) (2020).

[8] TEX. CODE OF CRIM. PROC. art. 38.01 § 3.

[9] *Id.*

[10] *See*, 37 Tex. Admin. Code § 651.304-307 (2019).

[11] 37 Tex. Admin. Code § 651.309; *Id.* at § 651.216.

C. Accreditation and Licensing Jurisdiction

The Texas Code of Criminal Procedure prohibits forensic analysis from being admitted in criminal cases if the crime laboratory conducting the analysis is not accredited by the Commission.[12] The term "forensic analysis" is defined as follows:

> "Forensic analysis" means a medical, chemical, toxicological, ballistic, or other expert examination or test performed on physical evidence, including DNA evidence, for the purpose of determining the connection of the evidence to a criminal action (except that the term does not include the portion of an autopsy conducted by a medical examiner or other forensic pathologist who is a licensed physician).[13]

The term "crime laboratory" includes a public or private laboratory or other entity that conducts a forensic analysis subject to this article.[14]

In addition to its crime laboratory accreditation authority, the 84th Texas Legislature expanded the Commission's responsibilities by creating a forensic analyst licensing program that: (l) establishes the qualifications for a license; (2) sets fees for the issuance and renewal of a license; and (3) establishes the term of a forensic analyst license.[15] The law also defines the term "forensic analyst" as "a person who on behalf of a crime laboratory [accredited by the Commission] technically reviews or performs a forensic analysis or draws conclusions from or interprets a forensic analysis for a court or crime laboratory.[16] The law further requires that any person who on behalf of a crime laboratory accredited by the Commission "technically reviews or performs a forensic analysis or draws conclusions from or interprets a forensic analysis for a court

[12] TEX. CODE CRIM. PROC. art. 38.35 §(d)(1).
[13] *Id.* at art. 38.01 §2(4).
[14] *Id.* at art. 38.35 §(a)(1).
[15] *Id.* at art. 38.01 §4-a(d).
[16] *Id.* at art. 38.01 §4-a(a)(2).

or crime laboratory" hold a forensic analyst license issued by the Commission, effective January 1, 2019.[17]

Pursuant to its licensing authority, the Commission may take disciplinary action against a license holder or applicant on a determination that the individual has committed professional misconduct or violated Texas Code of Criminal Procedure Article 38.01 or an administrative rule or other order of the Commission.[18] If the Commission determines a license holder has committed professional misconduct or has violated an administrative rule or order by the Commission, the Commission may, (1) revoke or suspend the person's license; (2) refuse to renew the person's license; (3) reprimand the license holder; or (4) deny the person a license.[19] The Commission may place on probation a person whose license is suspended.[20] Disciplinary proceedings and the process for appealing a disciplinary action by the Commission are governed by the Judicial Branch Certification Commission.[21]

D. Jurisdiction Applicable to this Complaint

The forensic discipline discussed in this final investigative report—Forensic Biology (DNA)—is subject to the accreditation and licensing authority of the Commission. The analyst against whom the complaint was filed, Andrew McWhorter, is an employee of the Department of Public Safety Crime Laboratory Houston Regional Laboratory ("DPS Houston"). DPS Houston is accredited by the Commission and the ANSI-ASQ National Accreditation Board ("ANAB") under the International Organization for Standardization accreditation standard 17025 ("ISO").[22] Andrew McWhorter is a currently licensed forensic analyst in good standing.

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[17] *Id.* at § 4-a(b).
[18] TEX. CODE CRIM. PROC. art. 38.01 §4-c; 37 Tex. Admin Code § 651.216(b) (2019).
[19] *Id.* at 651.216(b)(1)-(4).
[20] *Id.* at (c).
[21] TEX. CODE CRIM. PROC. art. 38.01 § 4-c(e); 37 Tex. Admin. Code § 651.216(d) (2019).
[22] *See*, http://www.txcourts.gov/fsc/accreditation/ for a list of accredited laboratories.

E. Limitations of this Report

The Commission's authority contains important statutory limitations. For example, no finding by the Commission constitutes a comment upon the guilt or innocence of any individual.[23] The Commission's written reports are not admissible in civil or criminal actions.[24] The Commission has no authority to subpoena documents or testimony. The information the Commission receives during any investigation is dependent on the willingness of stakeholders to submit relevant documents and respond to questions posed. The information gathered in this report has not been subject to the standards for admission of evidence in a courtroom. For example, no individual testified under oath, was limited by either the Texas or Federal Rules of Evidence (*e.g.*, against the admission of hearsay) or was subject to cross-examination under a judge's supervision.

II. SUMMARY OF COMPLAINT

On January 24, 2019, Dr. Robert Collins filed a complaint alleging professional misconduct against DPS (Houston) analyst Andrew McWhorter. (**Exhibit A.)** He accused McWhorter of intentionally presenting false evidence and testimony in the capital murder trial of Fred Lee. Collins also made various allegations against the Montgomery County District Attorney's Office and law enforcement agencies involved in investigating the case. Those allegations are outside the Commission's jurisdiction. This report focuses exclusively on the allegations against McWhorter and the DPS Houston laboratory with respect to the DNA analysis performed by McWhorter and his related testimony.

At its May 3, 2019 quarterly meeting, the Commission voted to form an investigative panel ("Panel") to assist the Commission in determining whether Collins' allegations are supported by

[23] *Id.* at § 4(g).
[24] *Id.* at § 11.

the facts and circumstances, available data and related documentation. The Panel included Bruce Budowle, Ph.D., Patrick Buzzini, Ph.D., and Mark Daniel, Esq.[25]

The criminal case that is the subject of this investigation was a capital murder cold case. The victim was found slumped over his car steering wheel in a supermarket parking lot in Montgomery County in September 2007. Law enforcement had multiple possible suspects given the victim's involvement in the local drug trade. The agency submitted evidence for analysis to DPS Houston in October 2007 and again in 2008 and 2012. Though many items were submitted, this report focuses on the right hand fingernail scrapings from the victim.

McWhorter first analyzed the evidence and issued a report on February 29, 2008. The report concluded the DNA profile from the fingernail scrapings was consistent with a mixture. At the time, McWhorter did not have known profiles against which to compare the evidentiary profile but stated the unknown evidentiary profile could be compared to possible known sources in the event such knowns were submitted to the laboratory.

On March 6, 2013, a sergeant from the submitting law enforcement agency contacted McWhorter to inform him they had identified Lee as a possible suspect in the homicide. The submitting agency requested that McWhorter compare the known profile of Lee (obtained from another case in which Lee's known sample was acquired) to any unknown evidentiary profiles. Though the officer did not submit a new known sample, communications with the officer indicated that DPS already had Lee's known profile because it had been collected in connection with a separate laboratory case number.

[25] On November 12, 2019, Dr. Collins sued each member of the Commission, the Commission's general counsel and various other parties in the United States District Court for the Western District of Texas (Austin) alleging the Commission's handling of his complaint violated various federal laws and the United States Constitution. The Attorney General of Texas represented Commissioners and the general counsel in the lawsuit. The Honorable Lee Yeakel dismissed Collins' lawsuit with prejudice on July 17, 2020.

McWhorter issued a second report in the case shortly after receiving the call from the submitting agency, on March 22, 2013. The report concluded the DNA profile from the fingernail scrapings was consistent with a mixture. It further concluded the victim and one of the suspects (his girlfriend) could not be excluded as contributors to the profile at all 15 STR loci typed. The report did not contain any indication that Fred Lee's known profile was compared to the evidentiary profile, but the data are clear that Fred Lee would have been excluded as a possible contributor had his profile been compared. It was also clear from the data that the best explanation for the number of contributors to the mixture was two persons. McWhorter also excluded three other suspects whose known reference samples were submitted by law enforcement.

After DPS Houston issued the 2013 report, the case went cold. McWhorter performed an additional DNA analysis in 2017, except this time he performed it using a new amplification kit that compared 24 genetic markers (the previous kit compared 15 STRs plus amelogenin). He also used the laboratory's recently adopted STRmix probabilistic genotyping software to generate a likelihood ratio. McWhorter released a report on August 22, 2017 that included a comparison to Lee's known DNA profile. The report stated an inconclusive result regarding the probability of the DNA evidence if Lee was a contributor as opposed to if an unknown person was the contributor. This result was based on a likelihood ratio of 0.0179. This low likelihood ratio fell within the "inconclusive" range (0.01 to 1000) DPS had in place at the time. McWhorter testified to the inconclusive result on January 10, 2019. Lee was acquitted by the jury on January 14, 2019. Collins filed this complaint ten days later on January 24, 2019.

III. COMMISSION INVESTIGATION

The Panel reviewed the following items in investigating this matter: relevant reports and case files; McWhorter testimony; electropherograms and relevant raw data. On April 18, 2019, Dr.

Budowle and Commission General Counsel Lynn Garcia also spoke with McWhorter regarding the allegations in the complaint. Crime Laboratory Division Chief Brady Mills participated in the call.

A. Review of Case File

Dr. Budowle reviewed the case file and made a few immediate observations. They included the following:

First, McWhorter overestimated the number of contributors to the mixture evidence. He concluded there were three contributors when the better explanation of the data was two contributors. Assigning the number of contributors to a mixture has a subjective component and is based on a variety of factors such as peak height balance, allele count, activity below analytical threshold and other considerations. When using STRmix software, overestimating the number of contributors may push what should be an exclusion into the inconclusive range for laboratories that utilize such ranges, which is what happened in this case. It is important to note that although overestimating the number of contributors was a factor in McWhorter reaching an erroneous interpretation, it played a minor role in the result overall. This is because regardless of whether the number of contributors was two or three, Fred Lee should have been excluded as a possible contributor to the DNA mixture.

Second, McWhorter used the same extract for the 2013 and 2017 interpretations yet he did not review the 2013 data which would have helped inform his interpretation. Scientists should always approach data holistically to reach the best possible interpretation of the data when ground truth is unknown.

Third, McWhorter did not consider the victim's known or the first suspect's known in evaluating the data in 2017. He did not condition the victim's known profile despite the fact that

this is best practice in a sample like the one at issue in this case. Conditioning the victim's known profile was also appropriate under the applicable SOP given the fact that fingernail swabs are considered intimate samples on which the victim's DNA profile was expected to appear. If McWhorter had conditioned on the victim, the STRmix software would have excluded Fred Lee regardless of the number of contributors to the mixture (*i.e.,* whether it was two or three). McWhorter, after the complaint was issued, performed this analysis and excluded Lee.

Fourth, the STRmix section of the DPS standard operating procedures in place at the time of analysis required analysts to assess whether the STRmix output was "intuitively supported." The analyst is expected to consider the totality of the data in making this assessment. McWhorter could not have complied with this step and still reached the inconclusive result. The reason the "intuitive support" requirement is in the SOP is so that analysts do not over rely on the software output. The software is a tool, but its limitations must be understood and respected for it to be an effective tool.

Fifth, although the Assistant District Attorney's request in 2017 was initially made on a rush basis, the rush abated after the report was released. McWhorter could have gone back to confirm that his analysis and conclusions were not adversely affected by the shortened timeline. The technical review process also failed to ensure the analytical result for the sample in question was supported by all available data. DPS explained that analysts and technical reviewers do not have a practice of re-checking rush cases even when the urgency is diminished by a continuance or other circumstance. While that may be true as a matter of historical practice, the Commission believes all analysts and technical reviewers should take the opportunity to re-review their work

where the opportunity arises based on the simple recognition that rushing is more likely to lead to mistakes in any human endeavor.

B. Conversation Regarding Issues Raised by Complaint

In April 2019, Budowle, Garcia and Mills discussed the issues raised in the complaint with McWhorter during a telephone conference. McWhorter defended his original results without having conducted a thorough review of the case file. He conveyed that additional amplification could not have been performed due to insufficient remaining sample. This turned out to be inaccurate. When Budowle tried to discuss why McWhorter interpreted the profile the way he did given various observations in the data, McWhorter was unprepared to discuss the data with any specificity. He approached the issues from a defensive posture and had not engaged in sufficient self-reflection to have a productive conversation regarding the case folder.

Notwithstanding this initial conversation, it was not long after that McWhorter changed his perspective and overall attitude regarding the issues raised in the complaint. In the days after the conversation with Budowle, Garcia and Mills, he performed a comprehensive re-analysis of the case file and corrected course. He also re-amplified the evidence. He ultimately agreed with Budowle's observations regarding both the number of contributors and the conclusion that Lee should have been excluded as a potential contributor. On April 12, 2019, McWhorter issued an amended report changing the result to exclude Lee.

IV. FINDINGS OF THE COMMISSION

A. Determination Regarding Professional Misconduct

"Professional Misconduct" means the forensic analyst or crime laboratory, through a material act or omission, deliberately failed to follow a standard of practice that an ordinary forensic analyst or crime laboratory would have followed, and the deliberate act or omission would

substantially affect the integrity of the results of a forensic analysis. An act or omission was deliberate if the forensic analyst or crime laboratory was aware of and consciously disregarded an accepted standard of practice.[26]

There is no evidence of professional misconduct by McWhorter. The complainant's various allegations of intentional bad acts and related conspiracy theories are not supported by the record.

B. Determination Regarding Professional Negligence

"Professional negligence" means the forensic analyst or crime laboratory, through a material act or omission, negligently failed to follow the standard of practice that an ordinary forensic analyst or crime laboratory would have followed, and the negligent act or omission would substantially affect the integrity of the results of a forensic analysis. An act or omission was negligent if the forensic analyst or crime laboratory should have been but was not aware of an accepted standard of practice.

Assessing professional negligence is necessarily difficult because it is a context-driven analysis that is dependent on the weight accorded various factors. The Commission recognizes the criminal justice system is not well-served by punitive oversight that discourages analysts from admitting mistakes for fear of adverse consequences. Because two of the Commission's core values are transparency and collaboration, members have always exercised constraint in using their discretion to issue a negligence finding.

Good science does not exist without mistakes, and crime laboratories are made up of imperfect humans. A single mistake or even multiple mistakes over the course of a career would not necessarily result in a professional negligence finding. However, this statement assumes a

[26] 37 Tex. Admin. Code §651.302(7) (2020).

fundamental premise, which is that an analyst will always seek to mitigate mistakes through proactive resolution as soon as possible after such mistakes are brought to the analyst's attention. In other words, the "standard of practice that an ordinary forensic analyst… would have followed," is not a career free of error. It is not even a career in which the analyst never misses steps in the standard operating procedure. But given the seriousness of the work, scientists should always hold themselves to the following standards at a minimum (1) approach each case with a high level of attention including a comprehensive review of all available information; and (2) take concerns raised about possible mistakes seriously the first time, regardless of the source of the complaint. Once the possibility of error is raised, analysts must move quickly to review all available data, leaving no stone unturned in the process of self-reflection. The Commission finds that McWhorter committed professional negligence based on the following facts. When viewed independently, many of the factors would not have resulted in a negligence finding. However, when viewed in their totality the Commission believes a negligence finding is appropriate:

1. The deviations from SOP and related best practices (e.g., conditioning against the victim's known and performing an assessment of "intuitive support") are fundamental, core concepts in DNA mixture interpretation. The failure to abide by these requirements raises concerns the analyst approached the case with the mindset of a technician using the software as a "black box" rather than a scientist exercising independent judgment.

2. McWhorter failed to interpret the mixture using the totality of the data available to him including work performed in 2013. He did not engage in a holistic approach to data interpretation, but rather gave inappropriate weight to the STRmix output, ignoring other more relevant factors.

3. When the rush nature of the case abated, the analyst did not take that opportunity to double-check his work, nor did he ask the technical reviewer to do the same. This was a capital murder case. It is not appropriate to blame the rush request for the errors when the case did not actually end up being a rush. The response that analysts don't typically look back at their cases if a continuance or other delay intervenes rings hollow

considering the seriousness of the role forensic analysts play in the criminal justice system.

4. Even if one accepts that it is not common practice to double-check cases where the rush request has been lifted, the analyst had an opportunity to do so when preparing to testify. Failure to condition the victim was not identified at this point, nor was the overreliance on the STRmix output given the totality of the data.

5. McWhorter provided inaccurate testimony to the trier of fact. While the Commission found no indication he intended to mislead the jury, he presented an inconclusive result that was not supported by the data, stating "I can't say included or excluded. I just don't know."[27]

   Notwithstanding this, McWhorter should be commended for his diligence in discouraging something lawyers often attempt to do—coaxing an analyst to overstate the significance of an inconclusive result. Consider the following exchange: "**Q.** "…you can see how a lay person might look at that and go, *aha, got him*? **A.** Potentially, I guess. **Q.** But that's not what you are saying, is it? **A.** *No, that's not how I look at it.*"

6. McWhorter's lack of preparation and defensiveness during the initial conference call did not reflect well on him as a representative of DPS especially considering his role in the laboratory goes beyond DNA analyst to include supervisor and member of the DPS DNA advisory board.

C. Texas Code of Professional Responsibility for Forensic Analysts

The Commission's administrative rules include a Code of Professional Responsibility for Forensic Analysts and Crime Laboratory Management designed to provide a framework for promoting integrity and respect for the scientific process and to encourage transparency in forensic analysis in Texas.[28]

The Code requires analysts to conduct thorough, fair and unbiased examinations, leading to independent, impartial, and objective opinions and conclusions. They are also required to base conclusions on procedures supported by sufficient data, not on outside influence. Outside influence can include pressure from customers to complete analytical work on a rush basis. The Commission finds McWhorter failed to conduct a thorough examination, was influenced by time pressures, and

[28] *Id*. at §651.219 (2019).

did not take the opportunity to review his work to mitigate risk when the time pressure ceased and the case was delayed. While these violations were not intentional and there is no indication of bad faith, the analyst fell short of meeting expectations in these areas.

V. ROOT CAUSE ANALYSIS AND CORRECTIVE ACTIONS

A. Systemwide Assessment of Assigning the Number of Contributors

Because a contributing factor in this case was McWhorter's overestimation of the number of contributors to the DNA mixture and its impact on the STRmix output, DPS management anonymized the case data and distributed it to all system technical leaders to manually assess whether they would have assumed two or three-persons in the mixture. Roughly half of the technical leaders called it a two-person mixture and the other half said it could possibly have been three persons. *However, regardless of the number of contributors, all technical leaders excluded Lee as a contributor when they compared his known profile to the evidentiary data.*

B. Quality Initiatives Specific to Analyst and Technical Reviewer

Initially, DPS attributed the root cause of McWhorter's incorrect conclusion and related testimony to the fact that the Montgomery County ADA submitted a rush request. The Commission believes this conclusion overstates the impact of the time pressure on decisions made by the analyst. The Commission believes the true root cause was McWhorter's failure to take a holistic view of the case record before him, instead relying too heavily on the STRmix output in reaching his conclusion. McWhorter now clearly appreciates the primary and secondary causes of the mistakes in the case. This is in part due to self-reflection by McWhorter and in part due to efforts DPS has undertaken to provide additional training to both McWhorter and the technical reviewer.

Examples include the following:

- Advanced DNA Mixture Interpretation and STRmix training by USACIL February 2019.
- Interpretation and STRmix training given by Michael Coble the week of July 27, 2020.
- Internal training opportunities to raise awareness of how both emotional intelligence and cognitive issues played a role in McWhorter's initial response to the complaint made against him.
- Internal training to raise awareness of the impact communications provided by McWhorter as Technical Leader have in the forensic and legal community.
- Emotional Intelligence training hosted by DPS Victim and Employee Support Services Unit on September 1, 2020.
- Enhancing Forensic Decision Making (5-hour training given by Itiel Dror and hosted by ANAB) on October 20, 2020.

Both McWhorter and the technical reviewer in the Fred Lee case were administered a new competency test on DNA mixture interpretation. DPS has assured the Commission that both understand how to perform proper mixture deconvolution and interpretation with and without the use of STRmix software—at the time the analytical work was performed and today.

C. Case Review

The laboratory completed an additional systemwide review of cases from all DPS laboratories where STRmix was used, inconclusive results were reported, and where there was court activity in the case record, to determine whether intuitive support is provided for the inconclusive comparisons, similar to the case review completed with respect to the incident described herein. To date, DPS has completed reviews for Weslaco, Laredo, Waco, El Paso, and Corpus Christi. A total of 82 cases were reviewed. Three are awaiting decisions from the laboratories and six updated reports were issued. Two cases were identified where the sex of the person being compared or the Y-marker result was not taken into account during the comparison. When the Y-marker was considered, the comparison resulted in an exclusion instead of an

inconclusive result. In the remaining seven cases, Dr. Vanessa Nelson, the DPS Forensic Biology Program Coordinator, identified foreign alleles not in artifact positions that were unaccounted for based on the number of contributors assigned to the profile. In each of these cases, if the inconclusive range had not been used, the LR value would have provided an exclusion consistent with a manual comparison.

Of 69 cases reviewed in Houston, 16 were flagged for additional evaluation. Of these, 7 required revisions encompassing 35 comparisons. Among those 35 comparisons, 11 went from inconclusive to inclusion, 22 went from inconclusive to excluded, and 2 stayed the same (uninformative). No case other than the one at issue in this report contained a failure to condition on a known sample where appropriate given the circumstances.

D. Quality Process Relating to DNA Interpretation Across the DPS System

DPS made extensive systemwide changes to its DNA mixture policies and procedures, including its result-reporting practices. The laboratory focused its systemwide corrective actions on strengthening the laboratory's ability to provide quality responses for supplemental analysis on cases and improving the laboratory's ability to determine whether STRmix results are intuitively supported before reporting results to a customer. Additionally, DPS trained analysts to understand the importance of how their case propositions significantly affect their ability to perform analysis and report proper conclusions in DNA interpretation cases.

Finally, the laboratory provided training courses focused on ensuring that analysts understand the layperson's perception of an inconclusive comparison and other conclusions reported by the laboratory. A timeline of policy initiatives and related training includes the following:

On May 16, 2019, Dr. Nelson made all technical leaders aware of this case. McWhorter gave a presentation reflecting on what occurred and what could be done better in the future. On November 7, 2019, the system technical leaders decided to stop using an inconclusive range in reporting. On the same day, Dr. Nelson proposed a form to allow analysts to develop a written plan for handling rush cases including supplemental requests. The technical leaders decided the better approach would be to integrate the process into the DNA SOP.

On November 25, 2019, a new DNA SOP reorganized chapters to follow the interpretation workflow better. DNA-09-01 was added to address profile characterization and data evaluation since they are precursors to manual deconvolution and STRmix interpretation. Before the revision, the information was buried in the manual mixture deconvolution chapter and it was hard for analysts to navigate. Information was also included in the Technical Review chapter, the Physical Evidence Examination chapter, and the Technical Review checklists to remind analysts to review results of previous analysis when working on a case. Dr. Nelson provided training sessions to all analysts to review changes to the SOP.

On January 21, 2020, DPS stopped using the inconclusive range in their reports. Training was provided by Dr. Nelson to explain reporting statements and the reasons for the change in policy. On May 4, 2020, a new SOP was authorized that includes the updates regarding the inconclusive range reporting including a chapter entitled “Guidelines for Work and Testimony Preparation.” This chapter covers the topics of preparing to work rush cases, complex cases, and cases with requests for analysis of additional evidence as well as how to properly prepare for testimony.

On May 27, 2020, Dr. Nelson provided training to all DNA analysts on how to evaluate cases that included inconclusive range reporting to determine how additional reports should be issued as a result of evaluation. This training also included information on how to evaluate results

to determine if the inconclusive comparison had intuitive support or not and included a specific profile example to demonstrate how to make this determination.

On June 11, 2020, Dr. Nelson provided training during the DPS Statewide DNA meeting on the following topics: working complex cases, working rush requests, working requests for additional evidence, working requests where multiple analysts have performed work, and working cases where extended rounds of analysis are necessary. A training presentation was also given regarding how to prepare for testimony and experiences with testifying in court. Each presentation was 1 hour long and included results from survey questions presented to DNA analysts regarding both topics.

The SOP now defines what is meant by intuitive support. The laboratory also changed the format of its SOP in this section to present the information in a sequential manner similar to what is followed during DNA analysis to mitigate the risk of analysts overlooking a step.

V. FINAL OBSERVATIONS AND RECOMMENDATIONS

DPS's decision to focus part of the training on cognitive bias is appropriate given the facts and circumstances of this case. Many human factors can impact forensic analysis. This case provides a good example of the risks facing the laboratory when analysts rush cases. *Even more concerning, however, is the risk that DNA analysts will give too much deference to STRmix output without applying their knowledge about the software's limitations, as well as fundamental concepts in biology and data interpretation.* The risk is especially important to appreciate given the tendency of attorneys for both sides to overstate the significance of an inconclusive result in a way that favors their theory of the case.

The Commission recommends DPS continue with the various corrective actions, case reviews, and policy initiatives described in this report. The Commission is confident the missteps

identified in this case will boost McWhorter's understanding of how to become a better analyst and supervisor. Based on the Commission's review of DPS quality incident documentation, it appears McWhorter has used this experience as a learning tool, describing key components of the case in presentations during training and discussion with other analysts throughout the system. This process of self-reflection will not only allow McWhorter to continue to maintain his license in good standing, but also will benefit other DPS analysts and managers who have the opportunity to learn from the issues discussed in this report.

The Commission believes one area that merits additional attention by DPS is the role of technical review in the system. The technical review did not do its job in this case, which is to catch errors before the report leaves the laboratory. DPS should engage in ongoing efforts to measure whether the efforts undertaken here to shore up the technical review process are effective in the near and long-term.

Finally, the Commission commends the efforts of the DPS Forensic Biology Program Coordinator and the DPS quality system team, who from the outset understood and appreciated the concerns raised by the complaint. The individuals who worked on the quality documents, case reviews and various corrective actions have put in extensive work to ensure DNA analysis improves throughout the DPS system as a result of the issues highlighted by this case.

EXHIBIT A

1. PERSON COMPLETING THIS FORM

Name: Dr. Robert Collins
Address: 3920 West Alabama Street
City: Houston
State: Texas Zip Code: 77027
Home Phone:
Work Phone: 713-401-4405
Email Address *(if any)*: robertcollinsphd@gmail.com

2. SUBJECT OF COMPLAINT

List the full name, address of the laboratory, facility or individual that is the subject of this disclosure:

Individual/Laboratory: Andrew McWhorter/DPS Crime Lab
Address: 12230 West Road
City: Houston
State: Texas Zip Code: 77065
Date of Examination, Analysis, or Report: 9/20/2017
Type of forensic analysis: DNA
Laboratory Case Number *(if known)*: L2H-178189

Is the forensic analysis associated with any law enforcement investigation, prosecution or criminal litigation?
Yes ☒ No ☐

* If you answered "Yes" above, provide the following information *(if possible)*:

* Name of Defendant: Fred Dexter Lee

* Case Number/Cause Number: 15-05-04575
(if unknown, leave blank)

* Nature of Case: Capital Murder
(e.g burglary, murder, etc.)

* The county where case was investigated, prosecuted or filed: Montgomery

* The Court: 221st State District Court

* The Outcome of Case:

Not guilty.

* Names of attorneys in case on both sides *(if known)*:

Gerald Bourque

Your relationship with the defendant:

Self	☐	Family Member	☐
Parent	☐	Friend Attorney	☐
None	☐	Other *(please specify)*:	

Court appointed DNA expert for the defense.

If you are not the defendant, please provide us with the following information regarding the defendant:
Name: Fred Dexter Lee
Address *(if known)*: prior to 1/14/19, county jail >3 years
Home Phone:
Work Phone:

3. WITNESSES

Provide the following about any person with factual knowledge or expertise regarding the facts of the disclosure. Attach separate sheet(s), if necessary.

First Witness *(if any)*:
Name: 12 jurors in case
Address: Known by 221st District Court- Conroe, TX
Daytime Phone: 936-539-7808
Evening Phone:
Fax: 936-788-8364
Email Address:

Second Witness *(if any)*:
Name: Judge Lisa Michalk
Address: 207 W. Phillips St., Suite 300
Daytime Phone: 936-539-7808
Evening Phone:
Fax: 936-788-8364
Email Address:

Third Witness *(if any)*:
Name: Atty. Gerald Bourque (defendant's attorney)
Address: 24 Waterway Ave., #660
Daytime Phone: 713-862-7766
Evening Phone:
Fax:
Email Address: gerald@geraldebourque.com

4. DESCRIPTION OF COMPLAINT

Please write a brief statement of the event(s), acts or omissions that are the subject of the disclosure.

I am the complainant, Dr. Robert Collins. I have a Ph.D. in Molecular and Human Genetics from Baylor College of Medicine (2000) and a B.S in Genetics from Texas A&M University (cum laude, 1994). I have 14 publications in top-tier, peer-reviewed journals that have been cited over 1000 times (CV attached). I am a DNA expert/consultant for the defense in criminal cases including Capital Murder, murder, robbery, and sexual assault. I was appointed by the presiding Judge in this Capital Murder case to aid the defense and ensure the defendant receives a fair trial.

My complaint is simple. On January 10, 2019, the DPS Crime Laboratory's analyst/state's DNA expert, Andrew McWhorter, presented false evidence and gave false testimony in the Capital Murder trial of Fred Lee. Mr. McWhorter knew his testimony was false. Its sole purpose was to mislead and prejudice the jury. Furthermore, the state knew his testimony was false and worked with McWhorter to present it to the jury. The state intentionally tried to convict an innocent man using false testimony. I will explain the event and provide documentation to prove these allegations.

We received the chart (dated 9/20/2017) that McWhorter used from the ADA over a year ago. There was no DNA report (actually should be an amended report with legitimate reasons why the samples were retested) or amended DPS case file with it which I immediately asked for. It was never provided. However, the chart was clearly an allele table of badly degraded DNA profiles that were already known. The main question was why it was even done. The DPS lab hadn't worked on the case since 2013. The ADA and the Montgomery County Sheriff's Office had used Bode Technologies for all its DNA testing in the case since 2013.

Detailed complaint is attached.

5. EXHIBITS AND ATTACHMENT(S)

Whenever possible, disclosures should be accompanied by readable copies **(NO ORIGINALS)** of any laboratory reports, relevant witness testimony, affidavits of experts about the forensic analysis, or other documents related to your disclosure. Please list and attach any documents that might assist the Commission in evaluating the complaint. Documents provided will **NOT** be returned. List of attachments:

Detailed Complaint to TFSC 1-24-2019
Robert Collins PhD - CV March 2018
HOU170913_57_38 (DPS chart)
R. F. Scrapings Diagram (corrected)
1A e-gram
6A e-gram
7B Right Fingernail Scrapings e-gram
7B Trousers blood stain e-gram
DNA-Manual-2012-1016-2013-0830
L2H-178189 DPS Case File
March 22, 2013 DPS lab report
McWhorter LIM notes - 4 suspects DNA received
McWhorter LIM notes - discussion with Rooney
McWhorter LIM notes - Fred Lee's DNA profile already compared to evidence
McWhorter LIM notes - last messages about case
SOP - inconclusive defined

6. YOUR SIGNATURE AND VERIFICATION

By signing below, I certify that the statements made by me in this disclosure are true. I also certify that any documents or exhibits attached are true and correct copies, to the best of my knowledge.

Signature: Dr. Robert Collins Digitally signed by Dr. Robert Collins Date: 2019.01.24 11:36:05 -06'00'

Date Signed: