



Quality Division Use Only

Quality Tracking #:	2021-064	Classification:	Incident
Non-Conformance Level:	N/A	Section:	Biology/DNA
Date of Discovery:	10/19/21	Date of Incident:	10/19/21

Forensic Case Number(s), if applicable:	Agency Case Number(s), if applicable:
2017-18801 2016-20306 2016-15263 2016-21345 2017-09040 2017-20862 2018-02946 2018-04347 2018-04534 2018-06098 127618509 178463701 2011-27922 2017-06012 2017-10595 2018-03354 2018-04842	125608017 134273416 096723416 141857016 055581517 139154017 020797618 032952518 034565518 049430618 036417618 020421618 063778817 037518617 161596011 178463701 127618509

Description of Non-conformance:

The reported interpretations for case 2017-18801 were updated to be in accordance with the laboratory’s current interpretation guidelines. The original interpretation was reviewed because a reference sample was submitted. The review was performed before the comparison of the evidentiary data to that of the data generated from the reference sample.

As part of the investigation into an incorrect deduction made by a DNA report writer as part of Quality Corrective Action Report 2018-085 and the final report being issued by the Texas Forensic Science Commission in July 2018 that addressed complaint 17.04 in which the panel reported observations of inadequacies in the HFSC training program and recommended HFSC “review a representative sample of DNA mixture casework for newly qualified analysts to ensure protocols are being applied appropriately”, the Forensic Biology section committed to reviewing previously reported mixture deductions from all DNA report writers. Quality Report 2021-064 is being used to document the review of cases completed by the original DNA report writer of case 2017-18801.

Additional Information/Follow-Up:

As the lab transitioned from the Identifiler Plus amplification kit to the Globalfiler amplification kit in January 2017, it was apparent through validation data that the peak height balance between heterozygous peaks was not consistent with the validated percentages previously seen with Identifiler Plus data. The observed artifacts were also elevated more frequently in validation data generated with the Globalfiler amplification kit. This empirical data was discussed during the training process of shifting to a new amplification kit (Identifiler Plus to Globalfiler); however, it became apparent once more casework data was generated that additional discussions and training would need to be implemented regarding deductions. As a result, the Forensic Biology section strengthened the SOP with regard to deductions. The Forensic Biology section also developed additional training and created practice sets and a competency test to demonstrate compliance.

The review of this DNA report writer's cases spanned casework containing deductions written between May 2016 (the date when deductions were permitted by the DNA Interpretation SOP) and December 2018. The query showed that 480 reports had been issued by this DNA report writer between May 2016 and December 2018. A process of elimination was used to narrow down the list of cases that contained deductions. Each report was



reviewed for the word “deduced”, because analysts used a specific report statement that included this word only when a deduction was made. If the word “deduced” did not appear in the report, the case was eliminated from the list of cases to review. Of these 480 issued reports, 82 contained deductions. Once the list was narrowed down to cases with deductions, the list was further reduced by eliminating cases where the deduced profile appeared in multiple samples, because it was reasoned to be of low risk since a different profile (single source or major component) had been entered into CODIS, or the case was reviewed for Quality Corrective Action Report #2018-IA-09, as this also encompassed a review of deductions, leaving 16 potential cases available for review.

The Forensic Biology Assistant Technical Leader (ATL) at the time reviewed the deductions in the 16 remaining cases. These cases included both Identifiler Plus and Globalfiler data. The ATL independently interpreted each DNA profile in which a deduction was originally made. The ATL then compared her deduction to the original deduction. In addition, the ATL created a rating system that ranked the risk of missing a CODIS association based on any differences between her interpretation and the original deduction/CODIS entry. Differences in interpretation (or the lack of) were rated as follows: 0-no risk, 1-low risk, 2-medium risk, and 3-high risk of not obtaining a potential CODIS association. Three cases were reviewed and rated as 2-medium risk (2016-21345 and 2018-02946) and 3-high risk (2018-04534). The other 13 deduction cases were reviewed and rated as 0-no risk. The cases rated medium to high risk were given to the DNA Interpretation Supervisor for an additional level of review to ascertain if the concerns raised by the ATL were reasonable and if an amended report and/or CODIS entry modification was necessary.

No further training was recommended specifically for this report writer, as all analysts have had additional training and an accompanying quiz.

Summary of Root Cause Analysis:

Note: Incidents are documented for tracking purposes and trend analysis. Root Cause Analysis is not required for incidents.

N/A

Actions Taken:

After review of the data in case 2017-18801 per pre-comparison review guidelines, the analyst recognized previous interpretation needed to be revised to align with current interpretation guidelines. With these updates, no conclusions on the report needed to be changed, but the allele chart is no longer required on any DNA reports and therefore has been removed. The amended report statement for case 2017-18801 included a reference to quality incident workflow 2021-064.

The DNA Interpretation Supervisor documented her review of the cases rated medium to high risk (2016-21345, 2018-02946, and 2018-04534) and determined that no amended reports and/or CODIS entry modifications were necessary. In addition, she reviewed the other 13 deduction cases and agreed with the conclusion from the ATL that there was no risk associated with those cases.



As part of the Forensic Biology section's course of action to address deductions, the DNA report writers were involved in numerous conversations and refresher trainings associated with performing more conservative deductions. In addition to the review of cases for this quality report, the Forensic Biology section has several other quality measures in place with regard to historical deductions. Over 1200 DNA profiles were reviewed and modified if applicable as part of Quality Corrective Action 2018-IA-09. The Forensic Biology section also created a set of pre-comparison review guidelines. These guidelines should be followed when a known reference sample is submitted for DNA comparison and the case includes certain criteria associated with a DNA mixture reported prior to September 10, 2018. Pursuant to Quality Corrective Action 2018-066 (a finding during HFSC's 2018 accreditation assessment) the Forensic Biology section committed to issuing amended reports and/or removing any potential profiles from CODIS that are not supported by validation data, if discovered by any means since they don't have a method by which to specifically track these types of samples within the Porter Lee Laboratory Information Management System (LIMS). Lastly, it is Forensic Biology section practice to review casefiles prior to testimony and make revisions or amendments in order to be aligned with current interpretation guidelines as necessary.

Prior to the closing of this workflow two reports for case 2016-20306 were amended. After review of the data for case 2016-20306 as part of testimony preparation, the analyst recognized previous interpretation needed to be revised to align with current interpretation guidelines. As opposed to initiating a separate quality workflow to track these amendments, information about the amendments were included in this quality incident workflow since portions of case 2016-20306 were written by the same analyst as case 2017-18801 and involved amended reports due to changes to an original interpretation. The amended report statements for case 2016-20306 included reference to quality incident workflow 2021-064.

Section Manager: Courtney Head

Date: 01/18/23

Division Director: Amy Castillo

Date: 01/19/23

Incidents or Corrective Actions that involve the Biology/DNA section are reviewed by the Technical Leader and CODIS Administrator.

Technical Leader: Cheron Maxwell

Date: 01/12/2023

CODIS Administrator: Jennifer Clay

Date: 01/17/2023

Quality Director: Erika Ziemak

Date Closed: 01/19/23