

23.1 PURPOSE

Technical reviews are performed on all case files prior to reports being issued. Technical reviews are performed by an qualified analyst to verify that the conclusions and data are scientifically supported through the documentation in the case file.

Administrative reviews are performed on all case files prior to reports being issued. In cases where no DNA profile interpretations are reported, administrative reviews are performed by any laboratory personnel who have been trained to review DNA cases and have access to LIMS. These reviews are used to assure that the case demographics are correct, there are not typographical errors, and the documentation is consistent with laboratory policies.

In cases where DNA profile interpretations are reported, administrative reviews are performed by any qualified DNA analyst or DNA analyst trainee who has been approved to be an administrative reviewer. These reviews are used to assure that the case demographics are correct, there are not typographical errors, and the documentation is consistent with laboratory policies. In addition, the administrative reviewer will verify that the conclusions made in the report are supported through the documentation in the case file.

Please refer to GL-18: Case Reviews (Technical & Administrative Reviews) for general guidelines.

Note: Technical and Administrative reviews for outsourced case work will be addressed in DNA SOP 21 and GL 18.

23.2 RESPONSIBILITY

DNA section personnel.

23.3 DEFINITIONS

Definitions as per the 2011 FBI QAS:

DNA Analyst: is an employee, that has successfully completed the laboratory's training requirements for casework sample analysis, passed a competency test, and has entered into a proficiency testing program. This individual conducts and/or directs the analysis of forensic samples, interprets data and reaches conclusions.

Technical Review: is an evaluation of reports, notes, data, and other documents to ensure that there is appropriate and sufficient basis for the scientific conclusions. Elements are documented on DNA QR-4A "Batch Paperwork Review Checklist" and DNA QR-4 "Case Review Checklist".

Technical Reviewer (TR): is an employee who is a current or previously qualified DNA analyst in the methodology being reviewed and is not an author of the applicable report. The Technical Reviewer is authorized to conduct technical reviews and has had casework experience prior to performing any technical reviews. A methodology is used to describe the analytical processes and procedures used to support a DNA typing technology: for example, extraction methods (manual vs. automated), quantification methods (real-time); typing test kit, and platform (capillary electrophoresis). A DNA technical reviewer must be proficiency tested semi-annually to the extent to which he or she performs casework.

Administrative review: is an evaluation of the report and supporting documentation for consistency with laboratory policies and for editorial correctness. Elements are documented on DNA QR-4A "Batch Paperwork Review Checklist" and DNA QR-4 "Case Review Checklist".

Administrative reviewer (AR): is an employee who is not a technical reviewer or author of the applicable report.

23.4 **PROCEDURE**

23.4.1 Case documentation:

A DNA analyst receives a set of cases for processing and assigns a unique batch identifier to all cases to be processed together. Batch identifiers typically include the analyst's initials, date batch is started, and the batch number for that date (i.e. XXX010101).

The Batch ID is a unique identifier that acts as an address for traceability. Each batch shall be assigned a Batch ID and the Batch ID shall be documented on every page of the batch paperwork.

The batch paperwork for a case is considered part of the entire case record. Inside the physical case file folder will be additional technical and administrative records for the specific case, such as, but not limited to TR/AR checklists, evidence submission receipts,

communications, evidence exam worksheets, electropherograms for question samples and known samples (if applicable), CODIS documentation (if applicable), and draft reports.

When sample processing and first analysis is completed, the first analyst prints electropherograms to be included in case jackets (for Questioned samples) and relevant control electropherograms (RB, NEG, EP1, and POS) for the batch and initials all benchwork worksheets (from extraction through injection). It is not necessary to print ladders.

All case jackets, electropherograms and paperwork for one batch are transferred to the Technical Reviewer (TR) for data analysis and review of bench paperwork. The TR analyzes the electronic data and reviews all bench paperwork and reviews the packet to ensure each page is initialed by the first analyst. The TR transfers the batch paperwork to the Administrative Reviewer (AR). The AR administratively reviews the batch paperwork and returns it to the first analyst. All reviews of the batch paperwork are documented on DNA QR-4A "Batch Paperwork Review Checklist".

The first analyst separates electropherograms by case, and photocopies the injection worksheet(s) associated with Q sample(s) for each case in the set. All original worksheets (extraction, quant, amp, injection) and control electropherograms for each batch are scanned to the DNA network. The TR checks that scanning was done appropriately. The batch papers are retained together in the appropriate folder located in the Casework Processing Filing Cabinet.

The first analyst writes reports for each case in the batch, adds additional worksheets, as needed, and adds case # and initials to all pages in each case jacket. A copy of DNA QR-4A (Batch Paperwork Review Checklist) is placed in each case jacket.

If a sample fails during processing and it will be processed with a different batch, place a copy of the failed worksheet in the appropriate case jacket (i.e. if it fails Quant, put the failed Quant worksheet in the appropriate case jacket and note which sample failed; if you determine based on injection that it needs to be re-amplified, put the failed injection worksheet in the appropriate case jacket with the reason why it will be reprocessed).

If a sample(s) within one previously processed batch is amp'd later, either as a re-amp or using a different amplification kit, label the batch paperwork for the re-amp with the

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original Batch ID for the sample. After first and second analysis, add the new batch paperwork to the original batch papers and refile them in the filing cabinet.

If pooling samples from several different previously processed batches to be amp'd later either as re-amps or using a different amplification kit (i.e Y-STR, Mini-STR, etc.), a new unique Batch ID shall be assigned and documented on all pages in that set.

Note: Only official case receipts and records shall be maintained in the DNA case file. All case results/records shall be documented on the appropriate, controlled QR worksheets. For STR analysis, the GeneMapper electropherograms (with allele designation only, except for OL alleles which may include the size of the allele) are included in the case folder with the exception of convicted offender samples. All electronic files regarding STR analysis (Complete run folder: GeneMapper ID sample and project files: .fsa and .ser files) are archived appropriately.

23.4.2 Case review:

- 23.4.2.1 Analysts are expected to review their own case work prior to submitting it for technical review. DNA QA/QC Case Work Checklist Review (QR-4) should be used to confirm all appropriate case information resides in the case jacket. In addition, the case jacket should be reviewed for transcriptional and typographical errors.
- 23.4.2.2 If the evidence was examined and forensic biology tests were performed by a DNA analyst authorized in those testing methods, the results may be incorporated into a DNA report. Refer to FB-SOP-05 for Forensic Biology result statements.
- 23.4.2.3 Completed case jackets from an entire batch are returned to the TR for Technical Review.
- 23.4.2.4 The technical review function is performed by the TR (the person who 2nd analyzed the casework, question sample GeneMapper data) and documented on QR-4. In general, cases assigned to FSE 1s and FSE 2s, the TR is done by the direct Lead or designee. In general, cases assigned to FSE 3s, the TR is done by a FSE 2, or designee.

The elements of a Technical Review include but are not limited to the following as per the 2011 FBI QAS.

A review of all case notes, worksheets and electronic data (or printed electropherograms/images) that support the conclusions.

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A review of all DNA types to verify that they are supported by the raw or analyzed data (electropherograms/images).

A review of all profiles to verify correct inclusions and exclusions (if applicable) as well as a review of any inconclusive result for compliance with laboratory guidelines.

A review of all controls, internal lane standards, and allelic ladders to verify that the expected results were obtained.

A review of statistical analysis (if applicable).

A review of the final report to verify that the results/conclusions are supported by the data and that the report has addressed each tested item.

QR-13 "CODIS Profile Entry" will document the verification of CODIS eligibility and that the profiles entered have the correct DNA types and correct specimen category (Refer to DNA SOP-13 for more detailed guidance on CODIS Entry).

- 23.4.2.4.1 If the TR was not the person who 2nd analyzed the GeneMapper data of the casework, question samples, the technical reviewer must go back and analyze the data for all casework results that have not already been reported. The TR may choose to not reanalyze the data if the results were previously reported. Any non-concordance of analysis will be addressed between the 1st analyst, the TR, and the TL (if necessary).
- 23.4.2.4.2 The TR will confirm that all appropriate case information resides in the case jacket.
- 23.4.2.4.3 The TR will verify that the conclusions made in the case are supported through the documentation in the case file.
- 23.4.2.4.4 In addition, the case jacket should be reviewed for transcriptional and typographical errors.
- 23.4.2.4.5 No analyst may technically review their own work.
- 23.4.2.4.6 If the evidence was examined by a forensic biologist, no forensic biology tests were performed, and the forensic biology worksheets reside in the DNA case jacket: a DNA analyst can TR these worksheets. Essentially, the forensic biologist is being used as a laboratory assistant.
- 23.4.2.4.7 Cases containing Forensic Biology tests must be Technically Reviewed (TR) by a DNA analyst who is competent and at one time proficient for the tests performed.

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23.4.2.4.8 Completed case jackets from an entire batch are forwarded to the AR for Administrative Review.

23.4.3 The administrative review function is performed by the AR (3rd analyst) and documented on DNA QR-4 "Case Review Checklist". In general, for cases assigned to FSE 1s, the AR is done by other FSE 1s in the same group. In general, for cases assigned to FSE 2s and FSE 3s, the AR is done by other FSE 2s.

The elements of an Administrative Review include but are not limited to the following as per the 2011 FBI QAS:

A review of the case file and final report for clerical errors.

A review of the chain of custody and disposition of evidence

23.4.3.1 In cases where no DNA profile interpretations are reported, administrative reviews may be conducted by any laboratory personnel who have been trained to review cases and have access to LIMS. These reviews are used to assure that the case demographics are correct, there are not typographical errors, and the documentation is consistent with laboratory policies.

23.4.3.2 In cases where DNA profile interpretations are reported, administrative reviews are performed by any qualified DNA analyst who may or may not be competent in a specific technology/methodology used in the case, e.g., nuclear analysts may administrative review a mtDNA case. In addition, a DNA analyst trainee who has been approved to be an administrative reviewer may AR cases where interpretations are reported.

These reviews are used to assure that the case demographics are correct, there are not typographical errors, and the documentation is consistent with laboratory policies. In addition, the administrative reviewer will verify that the conclusions made in the report are supported through the documentation in the case file.

23.4.4 In the event of discrepant conclusions, the two examiners will discuss/review the results. Should a discrepancy persist, the data will be reviewed and conclusions approved by the Technical Leader (TL).

23.4.5 Where practicable, one case per analyst will be reviewed quarterly by the TL.