Scientific and Biometrics Analysis Quality Manual

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1 GENERAL

The Scientific and Biometrics Analysis Unit (SBAU) is assigned to the Terrorist Explosive Device Analytical Center (TEDAC) in the FBI Laboratory.

1.1 Mission Statement

The SBAU conducts latent print, DNA, trace, and toolmark analysis and related technical services to provide actionable intelligence from Improvised Explosive Device (IED) materials to the United States Government and its partners in a continual effort to access, defeat, and counter the IED threat.

1.2 Organizational Structure

SBAU is divided into five groups: DNA, Latent Print, Toolmark, Trace, and Technical Services.

A. The DNA group performs analysis within the Biology Discipline, specifically nuclear DNA examinations.
B. The Latent Print group performs analysis within the Friction Ridge discipline.
C. The Toolmark group performs analysis within the Firearms & Toolmarks discipline, specifically within the subdiscipline of Toolmarks.
D. The Trace group performs analysis within the Materials (Trace) discipline, specifically the subdisciplines of Hairs and Fibers.
E. The Technical Services group provides section level instrument maintenance, coordination of calibration services, and vendor liaison.

The SBAU Unit Chief (UC) will coordinate with UCs in the counterpart disciplines at Quantico to designate or select qualified Examiners to serve in the Technical Leader (TL) positions.

2 EQUIPMENT

2.1 Calibration Program

A list of equipment and instrumentation that require an internal calibration verification, external calibration/alignment, or cleaning/maintenance, and the required interval is maintained within the unit or by the discipline. Further information on calibration/alignment verification can be found in the appropriate technical procedure. Calibration records, including calibration certificates, will be maintained on the UNET Equipment Calibration and Service site. Other records will be maintained, as specified in a technical procedure, in Resource Manager, STACS™, or in the unit.

2.1.1 External Calibration/Alignment

A. Balances are calibrated on an annual basis by an ISO 17025 accredited laboratory to manufacturer's specifications.

B. Micrometers/Calipers/Gauges/Pipettes are calibrated on an annual basis by an ISO 17025 accredited laboratory to manufacturer's specifications, if used for critical measurements.
C. Balance Weights are recertified on a biennial basis by an ISO 17025 accredited laboratory to manufacturer's specifications.

2.1.2 External Cleaning/Maintenance

A. Microscopes are cleaned and serviced on an annual basis by an outside vendor. A list of microscopes requiring yearly maintenance will be maintained within the unit. A microscope will not be considered out of service unless it has not been serviced within a year and a half of its last service date.
B. Microscopes used for examinations at a non-FBI Laboratory controlled space will be assessed prior to use for proper functioning. This assessment will be recorded in the examination notes.

2.2 Microscope Transport

If items will be examined outside the Laboratory there may be a need to bring a microscope to the external location to facilitate the examinations. The microscope will be disassembled into its component parts and carefully packed in a container (e.g., Pelican case) to ensure they will not be damaged during transport. The component parts will be inspected for possible damage and the microscope will be reassembled at the external location. Test samples will be examined to ensure proper functioning. If any damage has occurred, the microscope will not be used.

3 EXTERNAL PRODUCTS AND SERVICES

3.1 Purchasing

A. Prior to submittal of a requisition or government purchase card (GPC) request for a product or service that will affect laboratory activities, the submitter will ensure evaluation of the supplier has been completed in accordance with LAB-100 Section 1.9.2 and list the criteria used (A. 1-9).
B. The Unit Chief prior to approving the requisition or GPC request will ensure the criteria used is specified on the form.

3.2 Receipt and Storage

A. Procured items will be inventoried when received to ensure accurate fulfillment of the request. The GPC card holder or requisition unit point of contact will be notified of any discrepancies. The absence of any discrepancies noted on the paperwork will be an indication that there were none.
B. Acquired supplies, reagents, and consumables will be stored appropriately (e.g., acids are kept in an acid safe storage cabinet).

3.3 Quality of Products

Products that can affect the quality of analysis must be verified prior to use. Products requiring quality checks prior to use and the method for checking their quality are identified in the individual technical procedures dictating their use. Quality checks will be recorded and maintained by each discipline.

3.4 Evaluation/Monitoring of Suppliers

If issues arise with a specific product or supplier, the steps taken to address the problem will be recorded, and if not resolved, an alternate product/supplier will be sought, and the original product/supplier will no longer be used without additional mitigation. As appropriate, other units in the Laboratory will be notified if the issue potentially impacts more than just SBAU.

4 VALIDATION OF TECHNICAL PROCEDURES

Validation studies will include, at a minimum:

- All of the requirements in LAB-100 8.2 C. 1-6
- Definition of the scope of the technical procedure
- Any relevant criteria specified in a discipline-specific Level 2 procedure

5 MONITORING

5.1 Performance Monitoring

The SBAU Proficiency Test Program Manager (PTPM) ensures a performance monitoring plan is available that covers the current year and the 3 additional following years based on the following. Discipline PTPMs may be responsible for the ordering, distribution, and review of proficiency tests.

A. Forensic examiners (FEs) within the DNA group will complete two proficiency tests annually in the area of nuclear DNA (nDNA) examination.
B. Biologists within the DNA group will complete two proficiency tests annually in the area of nDNA examination.
C. FEs within the Latent Print group will complete at least one proficiency test annually in the area of latent print comparison. Additionally, per accreditation cycle, FEs within the Latent Print group will complete at least one proficiency test in the area of latent print processing.
D. Physical Scientists (PSs) within the Latent Print group will complete at least one proficiency test annually in the area of latent print processing.
E. FEs within the Toolmark Group will complete at least one proficiency test annually in the examination and comparison of toolmarks.
F. PSs within the Toolmark Group will complete at least one intra-laboratory comparison or observation-based performance monitoring in the area of the examination of toolmarks.

G. FEs within the Trace Group will complete at least one proficiency test annually in the examination and comparison of hairs and one in the examination and comparison of textile fibers.
H. PSs within the Trace Group will complete at least one intra-laboratory comparison in the area of debris screening for apparent hairs and/or textile fibers.

Additional performance monitoring activities may be conducted as necessary.

5.1.1 Proficiency Testing

Technical Leaders may provide any relevant information or instruction to test participants to ensure consistency amongst participants if the design of a test or test scenario will require departure from standard procedures.

5.1.2 Intra-laboratory comparisons

All intra-laboratory comparisons will be technically and administratively reviewed prior to submission.

6 CONTINUING EDUCATION

All personnel must annually fulfill and record the continuing education requirement as specified in the LAB-100 Section 6.6.

A. 8 hours of annual training per performance rating year.
B. Training must relate to job performance.
C. Training includes both traditional and non-traditional learning opportunities.
D. The UC or Supervisor will consider training requests based on employee work demands and availability of financial resources. All continuing education credits will be approved by the UC or Supervisor.
E. Training must be recorded in Virtual Academy.
F. Any requirements specified in a discipline-specific Level 2 procedure.

7 DOCUMENT CONTROL

A. The SBAU Quality Assurance Program Manager (QAPM) will maintain controlled Firearms/Toolmarks Discipline (FTD) casework forms utilized by the SBAU-TG on BUNet.

B. The SBAU QAPM will ensure that all Level 2, 3, and 4 documents with SBAU as a stakeholder are reviewed annually and that a record is maintained of that review.

8 REPORT WRITING

Laboratory Reports (7-1 LIMS, 7-1) will comply with LAB-200 Section 3.1.

A. Disciplines will follow any discipline Level 2 or 4 procedures providing guidance on report language.

B. The Results of Examinations section will contain methods, results, opinions, limitations, interpretations, and/or conclusions of forensic examinations or this information may be under separate headings.
C. If no examinations were conducted, then no methods or interpretations/limitations sections are required.
D. If a methods and interpretations/limitations statement for an examination performed contains information not applicable to an examination on a case, the unrelated portion may be removed.
E. If an examination is performed and a methods and limitations statement does not exist, the Examiner will confer with the discipline Technical Leader. This consultation will be recorded in the Communication Log.
F. The applicable Department of Justice Uniform Language for Testimony and Reports (ULTR) documents will be referenced, as appropriate.

Alternate reporting formats may be utilized as specified in a discipline i3 procedure.

9 REVIEWS

A. Disciplines will follow any discipline Level 2 or 4 procedures providing guidance on technical and/or administrative reviews and associated records, if applicable.
B. A technical review of all Laboratory Reports will be conducted by the Technical Leader or an Examiner qualified in the discipline and authorized to conduct the review.
C. The Unit Chief, Supervisor, or an Examiner will perform an administrative review on all Laboratory Reports.
D. If the reviewer is qualified in the discipline of the Laboratory Report, they may conduct the technical review, verification, and the administrative review, unless otherwise specified by discipline specific Level 2 procedures.
E. During the review process, if printed pages of the notes will be updated and reprinted due to corrections, the original page(s) must be retained as part of the examination records.
F. Discipline i3 procedures will document the review requirements for those products.

10 REVISION HISTORY

Revision	Issue Date	Changes
00	2/11/2022	Drafted new manual