

Alaska Scientific Crime Detection Laboratory

Quality Assurance Manual

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1.0 Scope

The Alaska Scientific Crime Detection Laboratory's Quality Assurance Manual has been approved by the Forensic Laboratory Manager. The Quality Assurance Manual is the foundation for the Laboratory's Forensic Quality Assurance Program. The Quality Assurance Manual, the Health and Safety Manual, the individual Discipline Procedure Manuals and the individual Discipline Training Manuals form the Forensic Quality Assurance Program.

All employees are responsible for performing work within the policies and procedures of the Laboratory's Forensic Quality Assurance Program.

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2.0 References

International Organization for Standardization / International Electrotechnical Commission (ISO/IEC), *17025 General Requirements for the competence of testing and calibration laboratories*, 2005.

American Society of Crime Laboratory Directors / Laboratory Accreditation Board (ASCLD/LAB), *Supplemental Requirements for the Accreditation of Forensic Science Testing Laboratories*, 2011 Edition.

U.S. Department of Justice (DOJ), Federal Bureau of Investigation (FBI), *Quality Assurance Standards for Forensic DNA Testing Laboratories*, most current version.

U.S. Department of Justice (DOJ), Federal Bureau of Investigation (FBI), *Quality Assurance Standards for Forensic DNA Databasing Laboratories*, most current version.

International vocabulary of metrology – Basic and general concepts and associated terms (VIM), produced by the Joint Committee for Guides in Metrology (JCGM 200:2008).

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3.0 Terms

Terms and definitions given in the VIM and *Supplemental Requirements for the Accreditation of Forensic Science Testing Laboratories*, 2011 by ASCLD/LAB also apply to this document.

Adequate: The principle of being sufficient for a specific requirement.

Administrative documentation: Non-Laboratory generated documents such as Request for Laboratory Services Forms, Drug Recognition Examination Forms, Sexual Assault Response Forms and other pertinent information.

ADAMS: Acronym for Authenticated Digital Asset Management System

AFIS: Acronym for Automated Fingerprint Identification System.

Chain of custody: Documentation of all evidence transfers from receipt by the Laboratory until return to the submitting agency.

Corrective Action Report (CAR): A document detailing the course of action taken to determine the root cause of a deviation from expected results, minimize its impact and recurrence.

CODIS: Acronym for Combined DNA Index System

Competency test: An examination given to evaluate a person's ability to perform work in any functional area prior to the performance of independent casework or technical procedures.

Controlled document: A document distributed in a controlled manner to ensure that recipients receive subsequent revisions and replace previous versions to ensure current information is being utilized. Examples of Controlled Documents include but are not limited to the Laboratory Quality Assurance Manual, Discipline Procedure Manuals and Discipline Training Manuals.

Derived data: Experimental information utilized to render opinions, results and or conclusions.

Examination documentation: Case record documents with reference to procedures followed, tests conducted, standards/controls used, observations and results of examinations.

Key Management: Laboratory Management that includes the Forensic Laboratory Manager, Quality Assurance Manager, Safety Coordinator, Discipline Supervisors, Administrative Supervisor and the DNA Technical Manager.

Issuing authority(ies): Personnel authorized to direct and implement document revisions. This will typically be the Forensic Laboratory Manager, Quality Assurance Manager, DNA Technical Manager, Discipline Supervisors, CODIS Administrator or Scientific Director of the Forensic Alcohol Program.

LIMS: Acronym for Laboratory Information Management System

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Top Management: The Forensic Laboratory Manager and the Quality Assurance Manager have Laboratory wide authority.

SCDL: Acronym for Scientific Crime Detection Laboratory

SOQ: Acronym for Statement of Qualifications also referred to as curriculum vitae.

WIN: Acronym for Western Identification Network

Verification review: A review of physical comparisons, measurements or observations by a second qualified analyst to verify the conclusions of the casework analysis.

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4.0 Management requirements

4.1 Organization

4.1.1

The State of Alaska, Department of Public Safety, Scientific Crime Detection Laboratory provides forensic services as a state funded laboratory.

4.1.2

The Laboratory performs forensic services to meet the requirements of the State of Alaska, federal authorities as relates to the FBI DNA Quality Assurance Standards, International Standard 17025, the supplemental requirements of the American Society of Crime Laboratory Directors/Laboratory Accreditation Board and to satisfy the needs of the customer.

4.1.3

The Laboratory Management System covers all forensic operations performed by Laboratory employees and contracted employees at any site where forensic services are performed.

4.1.4

The Alaska Scientific Crime Detection Laboratory is an element within the Office of the Commissioner of the Alaska Department of Public Safety.

4.1.4.1

The Forensic Laboratory Manager has overall responsibility for the Laboratory staff, budget, goals and direction of the Laboratory.

4.1.4.1.1

The Forensic Laboratory Manager has authority over the Laboratory and the staff. The Forensic Laboratory Manager performs performance evaluations for Discipline Supervisors, the DNA Technical Manager and the Quality Assurance Manager. The Forensic Laboratory Manager must approve all personnel evaluations of all Laboratory Staff.

4.1.5

The Laboratory Management System:

- a) provides forensic personnel the authority and resources needed to carry out their duties, including implementation, maintenance and improvement of the quality system. All personnel are encouraged to identify and report any deviations from the quality system to the Quality Assurance Manager.
- b) ensures there are no undue internal and external influences on the professional judgment of all Laboratory Management and personnel. Laboratory staff will complete and submit a State of Alaska *Ethics Disclosure Form* to request permission for outside employment including volunteer work.

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- c) ensures the protection of confidential information to include the names of suspects and victims, case reports, and analytical findings. Case related information is not to be disseminated to any individual or organization other than the submitting agency, or the assigned district attorney or their agent, or the municipal prosecutor or their agent. The only exception to this policy is the dissemination of results by a grant administrator as part of grant reports or data gathered for grant purposes. The Forensic Laboratory Manager must give prior approval before the grant administrator can release information.
- d) directs Laboratory employees to avoid any activity, interest, or association that interferes or appears to interfere with their independent exercise of professional judgment. Any conflicts of interest or concerns shall be brought to the attention of the employee's direct supervisor immediately.
- e) has an organizational chart demonstrating the organizational and management structure of the Laboratory and its place within the Department of Public Safety. The organizational chart is maintained by the Quality Assurance Manager.
- f) specifies the responsibilities and authority of all forensic personnel. Each Laboratory member is accountable to only one immediate Supervisor per forensic discipline or category of testing.
- g) ensures adequate supervision of all employees including those in training. This supervision is performed by individuals familiar with the methods and procedures as well as the purpose and evaluation of the methods and procedures.
- h) ensures technical management has overall responsibility for all technical operations and the resources necessary to ensure quality forensic laboratory operations. The Forensic Laboratory Manager designates an individual as technical lead for each Discipline. This designation is indicated on the organizational chart.
- i) has a Quality Assurance Manager that reports to the Forensic Laboratory Manager. The Quality Assurance Manager ensures the quality system is implemented and followed at all times.
- j) appoints designees for key managerial positions when the managers are away from the Laboratory for extended periods of time. This shall be recorded in the weekly management meeting notes or via email.
- k) ensures all personnel are aware of the importance and relevance of their activities. All personnel contribute to the achievement of the objectives of the Laboratory Management System.

The Laboratory and the Department of Public Safety both have a formal written budget. The Laboratory budget is adequate to meet the objectives of the Laboratory.

4.1.6

Key Management ensures appropriate communication processes are established within the Laboratory through regular meetings, email communications, written communications and discussions with individuals.

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4.1.7

The Safety Coordinator is designated by the Forensic Laboratory Manager. This designation is indicated on the organizational chart. The Safety Coordinator oversees the safety program of the Laboratory and ensures that it is implemented and followed at all times. The Safety Coordinator provides educational opportunities in the areas of biological/chemical spill control, evacuation procedures, and hepatitis vaccination to Laboratory personnel. The Safety Coordinator or a designee manages the chemical inventory of the Laboratory. The Safety Coordinator may develop a safety committee to assist with the program.

4.1.8

The DNA Technical Manager manages the technical operations for the Forensic Biology Discipline. The DNA Technical Manager reports directly to the Forensic Laboratory Manager.

The Quality Assurance Manager (Forensic Scientist IV) has the authority and obligation to ensure that the requirements of the Forensic Quality Assurance Program are implemented and maintained.

The CODIS Administrator and Alternate CODIS Administrator are the central points of contact for CODIS operations in the Laboratory. Additional information is provided in the CODIS Manual.

Discipline Supervisors (Forensic Scientist IV) and the DNA Technical Manager must be aware of and accountable for the performance of the employees that they manage. It is their responsibility to provide employees with the means necessary to maintain their professional and scientific skills and ensure their compliance with the Forensic Quality Assurance Program.

4.2 Management System

4.2.1

The Alaska Scientific Crime Detection Laboratory has and maintains a Forensic Quality Assurance Program. The Forensic Quality Assurance Program documents are available to Laboratory personnel on an internal network drive, communicated through regular meetings and discussions, and implemented by all personnel.

4.2.2

The State of Alaska, Department of Public Safety, Scientific Crime Detection Laboratory will provide forensic services to the Alaskan community through Scientific Analysis, Integrity and Training.

These overall objectives are met through the implementation of the Forensic Quality Assurance Program. This Program complies with International Standard 17025, the supplemental requirements of the American Society of Crime Laboratory Directors/Laboratory Accreditation Board, Federal Bureau of Investigation *Quality Assurance Standards for Forensic DNA Testing*

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Laboratories, most current version and the Federal Bureau of Investigation *Quality Assurance Standards for Forensic DNA Databasing Laboratories*, most current version.

The documents of the Forensic Quality Assurance Program are reviewed annually and updated as necessary to improve the effectiveness of the program. All personnel are required to familiarize themselves with the Quality Assurance Manual, Health and Safety Manual, the Discipline Procedure Manuals and procedures specific to the scope of their responsibility.

4.2.2.1

Ethics training will incorporate *the ASCLD/LAB Guiding Principles of Professional Responsibility for Crime Laboratories and Forensic Scientists* document.

4.2.2.2

All forensic personnel will annually review *the ASCLD/LAB Guiding Principles of Professional Responsibility for Crime Laboratories and Forensic Scientists* document with Top Management. This review may occur in monthly laboratory meetings, Discipline meetings, and/or individual meetings. Records of ethics training will be kept with the quality assurance records.

4.2.3

Key Management provides evidence of their commitment to the development, implementation, and continual improvement of the effectiveness of the Laboratory Management System through discussions at regular Supervisor meetings, monthly Laboratory staff meetings and Discipline meetings.

4.2.4

Key Management is responsible for communicating the importance of meeting customer requirements and for having in place operational procedures, which will provide adequate means of compliance with all applicable State laws.

4.2.5

The Forensic Quality Assurance Program is comprised of the Laboratory Quality Assurance Manual, Discipline Procedure Manuals, Discipline Training Manuals, and Health and Safety Manual. The authority to approve and revise Forensic Quality Assurance Program documentation is defined as follows:

Laboratory policy is set forth in this Quality Assurance Manual. The Quality Assurance Manual is approved by the Forensic Laboratory Manager. Any revisions to the Laboratory Quality Assurance Manual are approved by the Forensic Laboratory Manager.

Laboratory technical procedures are found in each Discipline's Procedure Manual. The Procedure Manuals are approved by the Discipline Supervisors and/or the DNA Technical Manager. Any revisions to the Procedure Manuals are approved by the Discipline Supervisors and/or the DNA Technical Manager.

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Laboratory training procedures are found in each Discipline Training Manual. The Training Manuals are approved by the Discipline Supervisors and/or the DNA Technical Manager. Any revisions to the Training Manuals are approved by the Discipline Supervisors and/or the DNA Technical Manager.

The Health and Safety Manual is approved by the Safety Coordinator. Any revisions to the Health and Safety Manual are approved by the Safety Coordinator.

4.2.6

The Forensic Laboratory Manager shall possess a baccalaureate degree or higher in a natural science, criminalistics or a closely related field. The Forensic Laboratory Manager must have a minimum of 5 years of casework experience in one of the ASCLD/LAB International accredited disciplines as well as a minimum of 2 years of management experience.

The Forensic Laboratory Manager performs performance evaluations for the Supervisors, the DNA Technical Manager and the Quality Assurance Manager. The Forensic Laboratory Manager appoints the Safety Coordinator.

The DNA Technical Manager is responsible for evaluating all DNA methods used by the Laboratory and for proposing new or modified analytical procedures to be used by the analysts. The DNA Technical Manager is also specifically responsible for review and approval of the following for the Forensic Biology discipline: procedures, validations and methods, modifications to methodology, academic transcripts and qualifications of analysts and technicians, training program, training records, outsourcing agreements, internal and external audit documents, proficiency testing program and test results, quality assurance program, and Quality Review Forms and Corrective Action Reports.

The responsibilities of the Quality Assurance Manager include the following:

- Schedule and coordinate quality system audits.

- Evaluate results of quality system audits.

- Maintain and update the Laboratory Quality Assurance Manual.

- Maintain the Forensic Quality Assurance Program and ensure compliance with International Standard 17025, and the supplemental requirements of the American Society of Crime Laboratory Directors/Laboratory Accreditation Board.

- Administer the proficiency testing program for the Laboratory. Discuss results and any corrective actions with Discipline Supervisors and/or the DNA Technical Manager.

- Maintenance of training records.

- Discuss technical problems with Discipline Supervisors and/or the DNA Technical Manager to verify remedial action implementation.

- Monitor courtroom testimony of employees through witness evaluations and direct observation when possible.

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Recommend training to improve the overall quality of Laboratory staff.

Provide and arrange for training of Laboratory staff, as needed.

Evaluating instrument calibration and maintenance records.

Prepare an annual report of the Laboratory's Quality Assurance Program for the Forensic Laboratory Manager.

Discipline Supervisor duties include:

Review and evaluate proficiency test results from employees in their Discipline. Verify successful completion of tests.

Ensure that applicable quality control measures are being followed by employees in their Discipline.

Ensure work conditions, equipment, and procedures that protect health and safety.

Discuss apparent discrepant results in proficiency tests or in casework data with the Quality Assurance Manager. Ensure appropriate corrective measures are taken and documented. The Discipline Supervisor has the authority and responsibility to suspend any analytical activity, pending final review and approval by the Forensic Laboratory Manager.

When possible, conduct personal observation of employee's courtroom testimony.

Provide for and arrange for training of assigned staff, as needed.

Evaluate technical performance, interpersonal skills and work habits of analysts and technicians they supervise.

Conduct annual performance evaluations of the analysts and technicians they supervise.

4.2.7

Key Management will plan and implement all changes to the Forensic Quality Assurance Program to ensure the integrity of the Laboratory Management System.

4.3 Document Control

4.3.1 General

All documents that comprise the Forensic Quality Assurance Program are controlled and maintained according to the Controlled Documents Procedure (Appendix C) by the Quality Assurance Manager.

4.3.2 Document approval and issue

4.3.2.1

All documents in the Forensic Quality Assurance Program are reviewed and approved by the appropriate person prior to issue. The Quality Assurance Manager will maintain a master controlled documents list according to the Controlled Documents Procedure (Appendix C). This list identifies the current revision of all controlled documents to preclude the use of invalid and/or obsolete documents.

4.3.2.2

The Controlled Documents Procedure (Appendix C) ensures that all documents in the Forensic Quality Assurance Program:

- a) are authorized and available at all times to the laboratory personnel through the Laboratory's internal network drive.
- b) are periodically reviewed and revised when necessary to ensure compliance.
- c) are current versions and invalid and/or obsolete documents are promptly archived to assure against unintended use.
- d) once obsolete are suitably marked and retained.

4.3.2.3

All documents in the Forensic Quality Assurance Program are uniquely identified. Each document contains the date issued, issuing authority, revision identification, and page numbering system.

4.3.3 Document Changes

4.3.3.1

Revisions to controlled documents in the Forensic Quality Assurance Program are reviewed and approved by the same function that performed the original review as outlined in 4.2.5. Any deviations to this policy must be approved by the Forensic Laboratory Manager and documented.

4.3.3.2

Changes will be identified in the Revision History of each document as outlined in the Controlled Documents Procedure (Appendix C).

4.3.3.3

The Laboratory does not allow the amendment of controlled documents by hand. Manuals are changed/updated via document revisions only.

4.3.3.4

The Controlled Documents Procedure (Appendix C) describes how changes to documents are made and documented by the Quality Assurance Manager.

4.4 Review of requests, tenders and contracts

4.4.1

Laboratory personnel evaluate the Request for Laboratory Services Form prior to the examination of evidence to ensure that the Laboratory has the capability to perform the request. The Procedure for Evidence Management provides evidence intake procedures.

Submission of evidence to the Laboratory indicates the submitting agency agrees the Laboratory will make the determination of the appropriate tests/methods.

4.4.2

Communications with agencies regarding evidence submissions are documented in case activities in the LIMS.

4.4.3

Review of requests for subcontracted work is managed by the appropriate Discipline Supervisor or designee.

4.4.4

Agencies are notified when changes are made to requested examinations. This notification is documented in the LIMS.

4.4.5

Any changes to the Request for Laboratory Services information made after examination of an evidence item begins are communicated to the agency and documented in case activities in the LIMS.

4.5 Subcontracting of tests and calibrations

4.5.1

The Laboratory will only subcontract with a competent subcontractor that complies with International Standard 17025 or another Forensic Laboratory Accrediting Body.

4.5.2

With the exception of toxicology services the Laboratory will advise the submitting agency in writing prior to any subcontracting of work. Toxicology services are contracted to the Washington State Patrol Toxicology Laboratory. Agencies are notified on the Laboratory's website of this contracting agreement.

4.5.3

The Laboratory is responsible for the subcontractor's work unless the submitting agency specifies the subcontractor to be used.

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4.5.4

The Laboratory will maintain a record of all approved subcontractors used for testing and/or calibrations.

4.6 Purchasing services and supplies

4.6.1

State purchasing guidelines govern the procurement of products and services for the Laboratory. The Purchasing Procedure (Appendix D) describes the selection and purchase of supplies and services including those that affect the quality of tests and/or calibrations performed.

4.6.2

The Laboratory will ensure that purchased supplies, reagents and consumable materials affecting the quality of tests and/or calibrations are not used until they have verified as complying with the requirements defined in the test methods or calibrations performed. Each Discipline will maintain records of these actions taken to verify compliance.

4.6.3

The Laboratory will maintain purchasing documents for supplies, reagents and consumable materials described in 4.6.2. These purchasing documents will be reviewed and approved based on technical content by the Discipline Supervisor (or designee).

4.6.4

Laboratory Management will evaluate suppliers of critical consumables, supplies and services following the Purchasing Procedure (Appendix D) and maintain records of the evaluations. The completed Vendor Approval for Critical Supplies and Services Forms will be stored in the LIMS.

4.7 Service to the customer

4.7.1

Laboratory staff communicates with agency representatives to clarify requests when needed and to advise on the status of the requests.

4.7.2

The Laboratory utilizes customer surveys to obtain feedback from the agencies regarding evidence submissions. Feedback from surveys will be reviewed by Top Management. Expert witness evaluation forms are used to obtain feedback on testimony provided.

4.8 Complaints

Laboratory employees will deal with complaints as outlined in the Alaska Department of Public Safety Operating Procedures Manual (OPM), Chapter 111.

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Any staff member receiving a complaint should resolve the issue, if it is within their responsibility, or notify the appropriate Supervisor and/or Key Management for resolution. Records of non-case specific complaints will be documented in the LIMS under the "CUSTOMERQ" case. Records of case specific complaints will be documented in the case activities area of the case record in LIMS.

4.8.1

Employees that have a complaint regarding the Quality System of the Alaska Scientific Crime Detection Laboratory should direct their concerns in writing to the Quality Assurance Manager.

4.9 Control of nonconforming testing and/or calibration work

4.9.1

If a nonconformity is discovered in the Laboratory's testing or results or work or a significant deviation from Laboratory policies the following will occur.

- a) The appropriate Discipline Supervisor and/or DNA Technical Manager will be notified of the nonconformity as soon as possible. The Quality Assurance Manager and Forensic Laboratory Manager will be informed.
- b) An evaluation of the significance of the nonconformity will occur. This evaluation will be documented on the Quality Review Form.
- c) Any corrective action needed will be taken along with a decision about the acceptability of the nonconforming work based on the outcome of 4.11.3.
- d) The agency is notified when appropriate to the nonconformity.
- e) The Quality Assurance Manager and the Discipline Supervisor and/or DNA Technical Manager will authorize, if needed, the resumption of work after consulting with the Forensic Laboratory Manager.

4.9.2

Corrective action policies outlined in 4.11 are followed when the evaluation in 4.9.1b indicates that a nonconformity could occur or when there is doubt about compliance with the Laboratory's Forensic Quality Assurance Program.

4.10 Improvement

The effectiveness of the Laboratory's Management System is continually improved through the use of the documents of the Forensic Quality Assurance Program, quality objectives, audit results, data analysis, corrective and preventive actions and management reviews.

4.11 Corrective action

4.11.1 General

Any Laboratory member may identify when nonconforming work or departures from Laboratory's Forensic Quality Assurance Program may have occurred. Any member identifying such potential concerns will immediately notify the Discipline Supervisor, DNA Technical Manager, Quality

Assurance Manager or Forensic Laboratory Manager. Once notification of a potential nonconformance has been reported 4.9.1 will be followed.

4.11.2 Cause analysis

The Discipline Supervisor and/or DNA Technical Manager will initiate the corrective action process with a root cause analysis to ensure that the cause, rather than just a symptom of the nonconformance will be prevented from occurring again. The root cause analysis should take into consideration all possible sources of nonconforming work to include an evaluation of the methods, procedures, equipment, supplies, training, work environment, customer agency needs, etc.

4.11.3 Selection and implementation of corrective actions

Upon completion of the root cause analysis the Discipline Supervisor and/or DNA Technical Manager will meet with the Quality Assurance Manager and discuss their findings. If needed the Discipline Supervisor and/or DNA Technical Manager and Quality Assurance Manager will select the corrective action and implement to address the problem and prevent reoccurrence of the nonconformity.

Implemented corrective actions will be appropriate to the magnitude and risk of the problem. The corrective action process will be documented on a Corrective Action Report Form. This documentation will be maintained by the Quality Assurance Manager.

4.11.4 Monitoring of corrective actions

It is the responsibility of the Quality Assurance Manager, with assistance from the Discipline Supervisor and/or the DNA Technical Manager, to verify and monitor the effectiveness and implementation of the corrective action plan. Corrective action records are maintained in the quality assurance records.

4.11.5 Additional audits

The Laboratory will perform an audit of the appropriate areas in accordance with 4.14, as soon as possible, when nonconformities could affect the Laboratory's compliance with the Forensic Quality Assurance Program, International Standard 17025 or the supplemental requirements of the American Society of Crime Laboratory Directors/Laboratory Accreditation Board.

4.12 Preventive action

4.12.1

Laboratory Management will proactively identify areas of needed improvement or potential sources of nonconformities. When identified, action plans will be developed, implemented, and monitored. Documentation of the preventive action will be documented in the LIMS.

4.12.2

The documentation of the preventive action will include the initiation of the action and the application of controls to ensure effectiveness.

4.13 Control of records

4.13.1 General

4.13.1.1

The Laboratory will maintain quality and technical records. Records will be stored in the LIMS system, the quality assurance records, Discipline records and hard copy case records. Examples of the quality assurance records include but are not limited to information from audits, management reviews, corrective and preventive actions taken, and training /continuing education records. Training and continuing education records are stored either in the quality assurance records or with in the individual's training records in the LIMS.

4.13.1.2

Laboratory records will be legible, appropriately stored and readily retrievable. Retention times for quality assurance records will be determined by ASCLD/LAB-*International* guidelines or Laboratory guidelines of 20 years, whichever is longer. All examination records and case records are stored for a minimum of 20 years.

4.13.1.3

All records will be stored in a secured and confidential manner.

4.13.1.4

The LIMS is stored securely by the Department of Public Safety Information Technology personnel. The LIMS will auto-logoff timeout after 30 minutes of inactivity to prevent unauthorized access.

4.13.2 Technical Records

4.13.2.1

All Analysts and Technicians will keep notes which adequately document the basis for any findings concerning evidence analyzed and tests performed in every case for which they have evidentiary analysis responsibilities. In general, documentation to support conclusions must be such that in the absence of the original analyst, another knowledgeable analyst or supervisor could evaluate what was done and interpret the data. All records will indicate the identity of the personnel that performed each aspect of the case by documenting in the examination notes.

4.13.2.2

Examination notes will include observations, data and calculations. These notes will be documented at the time of examination and identifiable to the specific task. If an observation or result is rejected by the analyst or technician the reason must be documented in the case file.

4.13.2.2.1

The start and end date of the analysis will be documented for each case in the LIMS. The start date is the date analysis or evidence examination begins. The end date is the date the analyst or

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technician finalizes the case sending it for technical and/or administrative review. All notes and case files are stored at the Laboratory either in hard copy form or in the LIMS.

4.13.2.3

No entry may be made on case notes or other records which hides, obscures or disguises the true nature of any examinations, results, conclusions, and interpretations. If an error is made, the incorrect information should be marked through with a single line, initialed and dated. Erasures or use of correction fluids is not allowed. Changes to electronic data are tracked through the audit tracking system of the LIMS.

4.13.2.3.1

Interlinear additions must be initialed and dated by the person adding the information.

4.13.2.3.2

Changes made to completed electronic cases will be tracked through the audit tracking system in the LIMS. Cases are considered complete when the end date has been recorded by the analyst or technician and the case is sent for technical and/or administrative review.

4.13.2.4

Case documentation must include, but is not limited to, data obtained through the analytical process. It should also include information regarding the packaging of the evidence as received, in particular whether the package is properly sealed and protected from contamination, where applicable. All documentation of procedures, standards and controls used, observations made, results of the tests performed, charts, graphs, photographs, digital images, video prints, communications, etc., which are used to support the analyst's conclusions, must be preserved. After a case has been technically and administratively reviewed the only copies of the case file will be the hard copy file or the electronic record in the LIMS. Laboratory members may not retain additional copies of reports, bench notes, photographs, etc. An exception is made for review of case files in preparation for testimony purposes or Laboratory audits/assessments. Any printed copies are to be shredded once they are no longer needed.

Only photocopied or printed copies of electronic case files will be taken from the Laboratory. The exceptions are Crime Scene, Latent Print and Footwear/Tire Track case files that contain items needed for court. Any other exceptions to this policy must be approved by the Forensic Laboratory Manager.

4.13.2.5

Case records to support conclusions must be such that in the absence of the original analyst, another person qualified in that Discipline through training and experience could evaluate the testing performed and interpret the data.

4.13.2.5.1

Technical records in the Latent Print Discipline will meet the criteria as described in Appendix C (Latent Print Examination Records) of ASCLD/LAB-*International* Supplemental Standards.

4.13.2.5.2

The operating parameters of all instrumental analyses conducted will be documented. Each Discipline's Procedure Manual will define the location of these instrumental records. Any deviations from the established parameters will be recorded and documented in the examination notes of the case in the LIMS.

4.13.2.6

The analyst's or technician's name or initials (or secure electronic equivalent) along with the Laboratory's unique case number will be present on every page of the case examination records. Instrument-generated records meet this requirement if they include the printed case number and date. For each page of the examination documentation, a numbering system will be used which indicates the total number of pages used. This is not required for case data maintained completely within the LIMS.

4.13.2.7

It is the responsibility of all analysts and technicians to prepare a report which contains the results and conclusions of analyses performed for every case for which they have evidentiary analysis responsibilities. When technical records are prepared by an individual other than the analyst or technician who interprets the findings, the individual's handwritten initials (or secure electronic equivalent of initials or signature) will be on each page of the documentation representing his/her work.

4.13.2.8

The Laboratory's unique case number will be present on all administrative records received or generated by the Laboratory for a specific case.

4.13.2.9

The Laboratory's unique case numbers will be present on all data generated when data from multiple cases is recorded on a single printout. This printout may be stored in a single file and referenced in the multiple files for which it was produced.

4.13.2.10

The Laboratory does not allow the use of double sided pages in case files.

4.13.2.11

Case notes, records of observations and other examination documentation must be of a permanent nature. Hand written notes and observations should be in ink, not pencil. Pencil may be appropriate for crime scene notes, diagrams or tracings or when environmental conditions prevent the use of ink.

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4.13.2.12

Identifications that require an independent check on a critical finding (verification review) will be performed by another currently qualified and proficiency tested analyst and documented in the case record. Established criteria for individual sections that necessitate a verification review are listed in each Discipline's Procedure Manual.

4.13.2.13

Abbreviations and notations will be acceptable if they are clearly documented and comprehensible. Discipline Procedure Manuals will contain a list of common abbreviations and/or symbols that are used by their personnel.

4.14 Internal audits

4.14.1

The Laboratory will conduct internal and external audits on a predetermined schedule. The Quality Assurance Manager will plan and organize the laboratory audit. Laboratory members will be trained and instructed about their audit responsibilities by the Quality Assurance Manager and will assist in the audits as requested. The Forensic Biology audits will be performed as specified in Standard 15 of the *Quality Assurance Standards for Forensic DNA Testing Laboratories and Quality Assurance Standards for Forensic DNA Databasing Laboratories*.

4.14.1.1

Internal audits will be conducted at least annually at the direction of the Quality Assurance Manager.

4.14.1.2

Records of internal audits will be retained in the quality assurance records for a period of at least five years.

4.14.2

The Laboratory will take timely corrective actions if an audit reveals that the effectiveness of operations or correctness of testing or calibration may be in question.

4.14.3

Documentation of the internal audits will include at a minimum the scope of the audit, audit findings and any corrective actions that may arise from the audit.

4.14.4

Should corrective actions arise from an internal audit; the follow up activities will verify and document the implementation and effectiveness of the corrective actions taken.

4.14.5

The Laboratory will submit an Annual Report to ASCLD/LAB each year (with exception of the year of an onsite assessment) within thirty calendar days of the Laboratory's accreditation anniversary date.

4.15 Management reviews

4.15.1

Key Laboratory Management will conduct reviews of the Laboratory Management System and testing and/or calibration activities to ensure their continuing suitability and effectiveness. The review will take account of:

- Suitability of policies and procedures;
- Reports from management and supervisory personnel;
- Outcome of recent internal audits
- Corrective and preventive actions;
- Assessments by external bodies;
- Results of inter-laboratory comparisons or proficiency tests;
- Changes in the volume and type of work;
- Customer feedback;
- Complaints;
- Recommendations for improvement;
- Other relevant factors, such as quality control activities, resources and staff training.

4.15.1.1

This Key Laboratory Management review will be held annually within 45 days of the final completion of the annual internal audit and will also include future planning for the Laboratory.

4.15.1.2

Records of Laboratory Management reviews will be stored in the quality assurance records for at least five years.

4.15.2

The Quality Assurance Manager will document the annual review of the Laboratory Management System along with any findings and/or actions that arise from the review. Any actions will be carried out in a timely manner.

5.0 Technical requirements

5.1 General

5.1.1

The Alaska Scientific Crime Detection Laboratory ensures correct and reliable forensic examinations by using adequately trained personnel, appropriate facilities, validated standard operating procedures, appropriately maintained and calibrated equipment and instrumentation, and by maintaining the integrity of evidence. When applicable, traceable reference standards and materials, and suitable sampling procedures are utilized.

5.1.2

The Laboratory will consider all factors contributing to the total uncertainty of measurement when developing and validating standard operating procedures, in the training and qualification of personnel, and in the calibration and maintenance of the equipment it uses as described in the Uncertainty of Measurement Implementation Plan (Appendix A).

5.1.3

Each Discipline will have documented procedures for routinely checking the reliability of their reagents.

5.1.3.1

Reagents prepared in the Disciplines will be labeled with, at a minimum, the identity of the reagent, the date of preparation or lot number. Each Discipline will maintain records that will identify the identity of the preparator, the date of preparation or lot number, who performed the quality control check and the results of the quality control check. Reagents will be tested at the time of preparation and the documentation completed.

5.2 Personnel

5.2.1

Laboratory Management will ensure the competency of all personnel that operate equipment and instrumentation, perform tests, perform calibrations, evaluate test results, author reports, and perform technical and administrative reviews. Any personnel undergoing training will be supervised by competent personnel.

5.2.1.1

Each Discipline will have a formal documented training program used to train individuals in the knowledge, skills and abilities to perform all aspects of the position held. The completion of training memo is retained in the quality assurance records. Each training program will cover the topic of evidence sampling and address any sampling plans that are utilized by the Discipline. The training program and training records will be sufficiently detailed to provide evidence that the

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individual has been properly trained and competency tested. Training programs may take into account any past training or work experience an individual may possess. The Forensic

Laboratory Manager shall authorize an individual to perform casework based on documentation from the discipline supervisor through the Quality Assurance Manager.

Laboratory Management provides for continuing education and maintenance of skills and abilities of personnel by providing for training, availability of literature and encouraging personnel to continually develop their scientific skills and knowledge.

If retraining is deemed necessary a specific plan for that individual will be developed by the Discipline Supervisor and the Quality Assurance Manager and approved by the Forensic Laboratory Manager. This plan would include at a minimum the scope of the retraining required, a plan of action to accomplish the retraining, and the trainer(s) assigned. Any retraining or competency testing performed will be documented.

5.2.1.2

Training programs for all forensic personnel will include training on the presentation of evidence in court.

5.2.1.3

Training programs for all forensic personnel will include general knowledge of forensic science, criminal and civil procedures and ethical practices in forensic sciences. Ethical training will incorporate *the ASCLD/LAB Guiding Principles of Professional Responsibility for Crime Laboratories and Forensic Scientists* document. All forensic personnel will annually review this document. Records of ethics training will be kept with the quality assurance records.

5.2.2

Laboratory Management will provide for the continuing education and training of all Laboratory personnel. Identifying training needs, providing this training to personnel and evaluating the effectiveness of this training is the responsibility of the Discipline Supervisors.

Discipline supervisors can identify training needs through one on one conversation with their Discipline members during discussions of performance evaluations, and in Discipline meetings.

Discipline Supervisors will provide occasions for each member to attend education courses when such attendance will directly benefit the effectiveness or efficiency of services provided.

Laboratory Management will provide opportunities for training whenever possible and appropriate to ensure the best utilization of personnel resources.

Each competency tested Forensic Scientist performing DNA analysis must meet the hours of continuing education required by the FBI Quality Assurance Standards for Forensic DNA Testing Laboratories and the FBI Quality Assurance Standards for DNA Databasing Laboratories each calendar year.

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A Laboratory member receiving training is responsible for completing such training in a satisfactory and professional manner and will complete an evaluation of the training received. This evaluation will be documented in the training record in the LIMS. Laboratory members are encouraged to improve their knowledge, and skills through a variety of educational opportunities, such as but not limited to:

- Attendance at professional meetings such as:
 - The American Academy of Forensic Sciences
 - The Association of Firearm and Tool Mark Examiners
 - The International Association for Identification
 - The Northwest Association of Forensic Scientists
 - International Association of Chemical Testers
 - International Symposium for Human Identification
 - CODIS User's Meeting
 - Society of Forensic Toxicologists
- Technical Training Courses such as:
 - FBI FSRTC courses
 - DEA Forensic Chemist Seminars
 - Indiana University Center for Studies of Law in Action
- In-house technical meetings, courses and seminars
- College courses
- Web-based training.

5.2.3

The Laboratory utilizes qualified technical personnel employed by the Laboratory. Contract employees will be held to the same standards and expectations as employees with respect to competency and proficiency testing.

5.2.4

The job descriptions, education and experience requirements (class specifications) for each position are available online via the Workplace Alaska website under Job Class Specifications. The DNA Technical Manager and all Forensic Scientists performing DNA analysis must also meet the educational, training, and experience requirements set forth by the FBI Quality Assurance Standards for Forensic DNA Testing Laboratories and the FBI Quality Assurance Standards for DNA Databasing Laboratories at the time of hiring.

The position descriptions (PD) explain the duties, functions, and tasks for each job and are maintained by the administrative support personnel.

5.2.5

The Forensic Laboratory Manager authorizes Laboratory personnel to perform forensic analyses and issue reports. The Quality Assurance Manager will retain records of all forensic personnel to include educational qualifications, training, and competency records. A competency memo will be issued upon completion of a training program that includes the scope of competency and date authorized for casework.

5.2.6 Technical personnel qualifications

5.2.6.1 Education

5.2.6.1.1

Forensic Scientists performing casework in the Drug Chemistry and Trace Evidence disciplines shall possess a baccalaureate or an advanced degree in a natural science or a closely related field.

5.2.6.1.2

Forensic Scientists performing casework in the Toxicology discipline shall possess a baccalaureate or an advanced degree in a natural science, toxicology, or a closely related field.

5.2.6.1.3

Forensic Scientists performing casework in the Biology discipline shall possess a baccalaureate or an advanced degree in a natural science or a closely related field and shall meet the educational requirements of the *Quality Assurance Standards for Forensic DNA Testing Laboratories and Quality Assurance Standards for DNA Databasing Laboratories*.

5.2.6.1.4

Forensic Scientists performing casework in the Firearms/Toolmarks, Latent Prints, and Crime Scene disciplines shall possess a baccalaureate or an advanced degree with science courses.

5.2.6.1.5

Forensic Technicians working as technical support in any Discipline shall meet the educational requirements specified in the job description.

5.2.6.2 Competency testing

5.2.6.2.1

Laboratory Management will ensure that all Forensic Scientists and Forensic Technicians performing casework satisfactorily complete a competency test for each discipline and category of testing prior to assuming casework responsibilities. A competency memo will be issued and retained in the training records for that individual.

5.2.6.2.2

The following shall be included in the training program of all Forensic Scientists and Forensic Technicians that issue Laboratory reports:

Examination of unknown samples covering the range of assigned duties and areas within the discipline or category of testing of training.

A written test report demonstrating the ability to properly convey results and conclusions and their significance.

A written or oral examination demonstrating the individual's knowledge of the discipline or category of testing, testing or tasks performed.

Each of the above will be appropriately documented and retained in the training records for that individual.

5.2.7

The Laboratory shall maintain a library containing relevant scientific journals and texts. This library may be in electronic form. Discipline Supervisors will encourage the review of appropriate new literature by Laboratory personnel. Each Discipline will document literature review in the LIMS.

5.3 Accommodation and environmental conditions

5.3.1

Laboratory facilities will be appropriate to facilitate performance of all aspects of testing, provide for storage of supplies, space for equipment and instruments. All examinations require normal laboratory environmental conditions unless noted in a procedure. Extreme care will be taken when sampling and/or examinations are performed away from a laboratory facility.

5.3.2

Examinations will be stopped when the environmental conditions could jeopardize the results. If environmental conditions could affect the quality of an examination the conditions will be monitored, controlled, and recorded in the appropriate case records.

5.3.3

The Laboratory will take measures to prevent cross-contamination and provide effective separation between incompatible activities or testing.

5.3.4

Access to and use of Laboratory testing areas is limited and controlled. The Forensic Laboratory Manager determines the access level.

5.3.4.1

The Laboratory entrance/exit points and the outer perimeter have security control at all times. The internal testing areas of the Laboratory have a locking system. Security codes, cards and keys for the Laboratory's individual interior forensic discipline laboratories will be issued to individuals by the Forensic Laboratory Manager. These items will be accounted for and documented as described in the Key Control Procedure (Appendix B).

The Laboratory facility is monitored by an intrusion alarm system when vacant. The Laboratory facility has a fire detection system.

Evidence storage areas are secured and have limited and controlled access. The storage conditions are designed to prevent loss, deterioration and contamination as well as maintain the integrity and identity of the evidence.

5.3.5

Laboratory Management will ensure good housekeeping in the Laboratory.

5.3.6

The Forensic Laboratory Manager will designate a Safety Coordinator to manage the Laboratory safety program. The safety program will include:

- A Health and Safety Manual.
- Annual Blood borne Pathogen training for all employees.
- Annual Fire Extinguisher training for all employees.
- CPR and AED training for employees.
- First Aid training for employees.
- Periodic in-house training on safety issues. This may include annual review of biological/chemical spill control, evacuation procedures, hepatitis vaccination, safety training opportunities.
- Documentation of employees participating in safety training (in-house, external).
- Monitoring compliance with OSHA requirements (e.g. Regular checks on exhaust hoods, fire extinguishers, eye washes, Material Safety Data Sheets (MSDS), etc and appropriate record-keeping).
- Maintenance of the Laboratory's chemical inventory, with associated hazard warnings and employee access to Material Safety Data Sheets.

5.4 Test and calibration methods and method validation

5.4.1 General

The Laboratory will use appropriate methods and procedures for all tests and calibrations performed. Discipline Procedure Manuals will include methods and procedures for all testing and/or calibrations performed in that specific Discipline to include sampling, handling, preparation of evidence to be tested and/or calibrated and, where appropriate, an estimation of

the measurement of uncertainty with statistical techniques for analysis of test and/or calibration data.

Discipline Procedure Manuals will include or reference instructions on the use and operation of all equipment and instruments used by that specific Discipline. Discipline Procedure Manuals will describe the handling and preparation of evidence for testing and/or calibration. Each Discipline will maintain and keep up to date all equipment and instrument instructions; standards; manuals and reference information relative to testing and/or calibration performed. Any significant deviations from test and calibration methods will be documented in the case record, technically justified and documented through the technical case review process. Customers are contacted when appropriate regarding analysis deviations.

5.4.2 Selection of methods

The Laboratory will use test and/or calibration methods, including sampling, that are appropriate for the analysis and which meet the needs of the customer.

Methods used by the Laboratory will either be validated Laboratory-developed methods or published in international, regional or national standards, or by reputable technical organizations, or in relevant scientific texts or journals, or specified by the manufacturer of the equipment. Discipline Supervisors will ensure that all methods operate properly before using them for testing and/or calibration.

5.4.3 Laboratory-developed methods

The Discipline Supervisor (the DNA Technical Manager for the Forensic Biology discipline) will coordinate the introduction of any new test or calibration methods used in the Discipline. The Discipline Supervisor or the DNA Technical Manager will consult with the Quality Assurance Manager during the development of the new method. The new method will be documented, validated, approved, and communicated to the Discipline prior to use in casework.

5.4.4 Non-standard methods

Analysts will use validated technical methods. If a deviation from a method is necessary, the deviation will be documented in the case record and technically reviewed and documented through the technical case review process.

5.4.5 Validation of methods

5.4.5.1

Validation of new methods or procedures for the Laboratory confirms by examination and objective evidence the particular requirements for the intended use of the new method or procedure is met.

5.4.5.2

Validations will be performed on all new technical methods or procedures to demonstrate reliable and accurate results for the intended use of the method or procedure. Disciplines will maintain a record of the validation to include the procedure used, results obtained and a statement as to whether the method is fit for the intended use.

5.4.5.3

The validation process will review the range and accuracy of the results obtained from testing to ensure the new technical method or procedure meets the requirements needed.

5.4.5.4

Methods validated outside of the Laboratory will be evaluated prior to implementation. This will include reliability testing by the Discipline through a documented in-house performance verification. This verification will be maintained in the Discipline records for future reference.

5.4.6 Estimation of uncertainty of measurement

5.4.6.1

Calibration services are only performed in the breath alcohol Discipline of the Laboratory.

5.4.6.2

The Laboratory has a procedure to estimate the uncertainty of measurement when values are reported for the weight of controlled substances, concentration of blood alcohol, concentration of alcohol in a liquid, the barrel length of a firearm and/or the overall length of a firearm. The procedures will include the process of rounding the expanded uncertainty and the coverage probability of the expanded uncertainty will be a minimum of 95%. The procedures are kept in the Discipline records of controlled substances, alcohol, and firearms.

5.4.6.3

Estimation of the uncertainty of measurement was based on knowledge of the performance of the method and previous experience as well as any significant parameters that affect the measurement result to include:

- Statement of the measurand
- Statement of the measurement traceability
- Equipment used
 - All uncertainty components considered
 - All significant uncertainty components and their evaluation
 - Data used to estimate repeatability and/or reproducibility
 - All calculations
 - The combined standard uncertainty, the coverage factor, the coverage probability, and the resulting expanded uncertainty
- The schedule to review and/or recalculate the measurement of uncertainty.

5.4.7 Control of data

5.4.7.1

Any manual calculations performed in casework will be reviewed during the technical and/or administrative review process.

5.4.7.2

When computers or automated equipment are used for casework, Discipline Supervisors will ensure that:

- a) computer software developed or modified in house will be documented and validated prior to use;
- b) procedures are established and implemented for protecting the integrity and confidentiality of data;
- c) computers and automated equipment are properly maintained to ensure the integrity of data.

5.4.7.2.1

Discipline Supervisors will implement appropriate measures to prevent unauthorized access to computers used for digital evidence examination.

5.5 Equipment

5.5.1

Key Management will ensure that all items and equipment necessary for casework are available to Laboratory personnel.

5.5.2

Equipment and its software used for casework will meet the accuracy requirements set forth in the Discipline Procedure Manuals. Prior to use in casework equipment will be calibrated or performance checked as described in the Discipline Procedure Manuals.

5.5.3

Laboratory equipment will be used by authorized personnel. Instruction and maintenance manuals will be readily available to the appropriate personnel.

5.5.4

Laboratory instruments and equipment will be labeled and uniquely identified.

5.5.5

Disciplines will keep equipment records to include:

- a) identity of the equipment and its software;
- b) manufacturer, type, and serial number or unique identifier;

- c) performance checks and/or calibration records;
- d) current location;
- e) manufacturer's instructions;
- f) calibration certificates, adjustments, date of next calibration as applicable;
- g) maintenance performed and, where appropriate, maintenance plan;
- h) repair records.

5.5.6

Discipline Procedure Manuals will outline any necessary procedures for maintaining measuring equipment to ensure proper functioning and to prevent contamination or deterioration.

5.5.7

Any equipment that has shown to be defective or operating outside of limits specified in Discipline Procedure Manuals will be taken out of service and marked as such. The equipment will be repaired and once reliability has been demonstrated by calibration and/or performance checks returned to use. A determination will be made if any test results were affected. The procedure for nonconforming work will be followed, if necessary.

5.5.8

Where practicable, Laboratory equipment requiring calibration will be labeled with the status of calibration to include date calibration was performed and date next calibration is due.

5.5.9

Laboratory equipment will not be used by non-laboratory personnel without prior approval from the Forensic Laboratory Manager. If equipment is operated outside of the control of Laboratory personnel, the equipment will be calibrated or performance checked prior to next use by Laboratory personnel.

5.5.10

Discipline Procedure Manuals will outline any performance checks required on calibrated equipment.

5.5.11

Discipline Procedure Manuals will ensure that any correction factors necessary are correctly updated.

5.5.12

Discipline personnel will ensure that equipment and software are safeguarded from any adjustments that would invalidate the test and/or calibration results.

5.6 Measurement traceability

5.6.1 General

Each Discipline will have a documented procedure for the calibration of equipment used for testing and/or calibrations that have a significant effect on the accuracy or validity of the test result. All equipment described above will be calibrated prior to being put into service.

Each Discipline will utilize a calibration laboratory accredited to ISO/IEC 17025:2005, with a scope of accreditation covering the calibration performed, for all calibrations where the calibration has a significant effect on the accuracy or validity of the sampling or test result, or total uncertainty of the test result.

5.6.1.1

Discipline procedures will establish the time frame for checking the calibration of equipment based on the specifics of the testing performed with the equipment. Calibration checks will not be less stringent than the manufacturer's recommendations.

5.6.2 Specific requirements

5.6.2.1 Calibration

5.6.2.1.1

The accredited Disciplines of the Alaska Scientific Crime Detection Laboratory do not issue calibration certificates.

5.6.2.1.2

The accredited Disciplines of the Alaska Scientific Crime Detection Laboratory do not issue calibration certificates.

5.6.2.2 Testing

5.6.2.2.1

Disciplines that perform internal calibrations of equipment/instrumentation will establish traceability by means of an unbroken chain of calibrations or comparisons linking the calibration standards to the relevant primary standards of the SI units of measurement.

When necessary, Disciplines can utilize competent external calibration services that can demonstrate measurement capability and traceability. The calibration certificates issued by these entities will contain the calibration results, including the measurement uncertainty and/or a statement of compliance with an identified metrological specification.

5.6.2.2.2

Measurements made by Disciplines should be traceable to SI units. The link to SI units may be achieved by reference to national measurement standards.

Where traceability of measurements to SI units is not possible and/or relevant, Disciplines will establish traceability to other appropriate measurement standards such as certified reference materials or reference standards.

5.6.3 Reference standards and reference materials

5.6.3.1 Reference standards

Each Discipline will have a procedure for the calibration of their reference standards. The procedure will ensure the reference standards are calibrated by a provider that can provide traceability to the SI units by means of an unbroken chain of calibrations and comparisons linking the reference standards to the relevant primary standards of the SI units of measurement as described in ISO/IEC 17025:2005 5.6.2.1. Reference standards will only be utilized for calibration purposes; unless it can be documented that additional use will not invalidate their performance as reference standards. Reference standards will be calibrated before and after any adjustment.

5.6.3.2 Reference materials

Reference standards will be traceable to SI units of measurement or to certified reference materials. Internal reference materials will be checked to verify their suitability.

5.6.3.2.1

Disciplines utilizing reference collections maintained for identification, comparison or interpretation purposes will document, uniquely identify and properly control the reference collection.

5.6.3.3 Intermediate checks

Each Discipline will have procedures to perform checks on reference, primary or working standards and reference materials to maintain confidence in their performance.

5.6.3.4 Transport and storage

Each Discipline will have procedures for the safe handling, transport, storage and use of reference standards and materials to prevent contamination and protect their integrity.

5.7 Sampling

5.7.1

The Laboratory will have a documented sampling plan for Disciplines that take a representative sample of a substance or material for testing and report on the whole substance or material. The sampling plan will be available at the location where sampling is undertaken and will address the factors to be controlled to ensure the validity of the testing.

5.7.2

Deviations from the sampling plan require prior approval from the Discipline Supervisor and will be documented in LIMS.

5.7.3

When a sampling plan is utilized it will be documented in the case records in LIMS. The documentation will include at a minimum: the sampling procedure used, identification of the sampler, relevant environmental conditions and diagrams or other equivalent means to identify sampling location as necessary and, if appropriate, the statistics the sampling procedure is based upon.

5.8 Handling of test and calibration items

5.8.1

Procedures for the transportation, receipt, handling, storage, and retention of evidence items will be outlined in the Evidence Procedure Manual to ensure the integrity of the evidence and protect the interests of the Laboratory and the submitting agency.

5.8.1.1

All internal transfers are documented in LIMS. Each internal transfer includes a signature, or secure electronic equivalent, of the person/location receiving the evidence; the date of receipt or transfer; and the unique identifier of the evidence.

5.8.1.1.1

Any evidence items subdivided by the Laboratory will be tracked in the LIMS in the same manner as outlined in 5.8.1.1.

5.8.1.1.2

All evidence accepted and stored at the Laboratory will be under proper seal. Evidence is properly sealed when its containers are secured to prevent access to the contents. Upon receipt of evidence from contributors, evidence personnel will inspect evidence containers for proper seals.

5.8.2

Evidence received at the Laboratory will be assigned a unique identifier comprised of the Laboratory case number and item number. This identifier is retained and documented in the LIMS. LIMS provides a system to sub-divide evidence items as well as documents all transfer of items within and from the Laboratory.

5.8.3

Upon receipt of evidence, departures from normal or specified conditions will be documented in the LIMS. If the suitability of an item of evidence for examination is questionable or the request for examination is unclear, the submitting agency will be contacted. This communication will be documented in the LIMS.

5.8.4

The Laboratory will ensure the integrity of all evidence while at the Laboratory by avoiding deterioration, loss or damage during storage, handling and preparation of evidence for testing. If

evidence items, or portions of evidence items, are inadvertently lost or destroyed while in the custody of an analyst or technician, whether prior to, in the course of, or following examination, the following will occur:

- The appropriate Supervisor shall be notified.
- The occurrence is to be reported in the “Results” section of the Scientific Examination Report.
- Details surrounding the occurrence should appear in the notes.
- In the event that any results were obtained prior to the loss or destruction, these results should be reported along with the statement reflecting the loss or destruction.
- Damage to outer containers or items not requiring examination need only be documented in notes.

5.8.4.1

Evidence in the Laboratory not in the process of examination is stored in a sealed condition in secured, limited-access storage areas.

5.8.4.2

Unattended evidence while in the process of examination will be properly secured to prevent loss or contamination. This can be accomplished by securing evidence in a temporary storage location or a locked room.

5.8.4.2.1

The Laboratory defines evidence in the process of examination for no longer than 90 days. Evidence in the process of examination can be stored unsealed in a secure limited access area.

5.8.4.3

Items of evidence that are too large or impractical to be placed in a sealable container will be marked or identified so that the item of evidence can be recognized.

All evidence seals applied by laboratory personnel will be marked with the initials of the person sealing the evidence and the date sealed. Whenever possible these markings should cross the barrier between the evidence tape and the container. All evidence packages sealed by laboratory personnel will be marked with the Laboratory case number and item number. Where practical the inner most package will also be marked with Laboratory case number and item number. If Laboratory personnel must vary from this practice, it must be documented in the LIMS.

5.8.4.4

Any photographs or images collected from latent prints and crime scenes will be treated as evidence and stored on a limited access internal network drive titled “Physical Section Images” and/or ADAMS.

5.8.4.5

Evidence collected by Laboratory personnel will be protected from loss, cross transfer, contamination and/or deleterious change, during transportation to an evidence facility.

5.8.4.6

The appropriate Discipline Procedure Manuals will outline procedures for the operation of individual characteristic databases.

5.8.4.6.1

The CODIS individual characteristic database and palm files in the Latent Print Discipline are treated as reference materials.

5.8.4.6.1a

The Laboratory does not have any individual characteristic databases under its control that are treated as evidence.

5.8.4.6.1b

Individual characteristic database samples not treated as evidence will meet 5.8.4.6.2 through 5.8.4.6.4.

5.8.4.6.2

Each CODIS database sample and palm file under the control of the Laboratory will be uniquely identified.

5.8.4.6.3

CODIS databases samples and palm files under the control of the Laboratory will be protected from loss, cross transfer, contamination and deleterious change.

5.8.4.6.4

Access to CODIS database samples and palm files under the control of the Laboratory will be restricted to those persons authorized by the CODIS Administrator or the Latent Print Supervisor.

5.9 Assuring the quality of test and calibration results

5.9.1

The Laboratory will monitor the validity of testing, examination/analysis and calibrations performed through the use of quality control procedures. Each Discipline Procedure Manual will outline the quality control procedures for that specific Discipline. The following are examples of quality control procedures:

- Use of reference collections;
- Use of certified reference materials;
- Use of positive and negative controls;

- Participation in proficiency testing programs.

5.9.1.1

Discipline Procedure Manuals will specify the controls and standards utilized in each method or procedure. All controls and standards utilized in casework will be documented in the case record.

5.9.2

If quality control data is found to be outside of the pre-defined criteria, a planned action will be undertaken to correct the problem and prevent incorrect results from being reported. Discipline Procedure Manuals will provide additional guidance for that specific Discipline.

5.9.3

Each Discipline of the Laboratory will participate in proficiency testing. The Quality Assurance Manager will coordinate the ordering and submission of proficiency tests for the Laboratory.

5.9.3.1

Laboratory members will perform proficiency tests by utilizing the same test methods, technical review, verification, technical and administrative review procedures as are normally applied to casework. Each proficiency test will have a report issued in the LIMS. Upon completion of the proficiency test, verification (if applicable), technical review and administrative review the member performing the proficiency test will forward the proficiency test documentation to the Discipline Supervisor or DNA Technical Manager. The Discipline Supervisor or DNA Technical Manager will review the proficiency test documentation and forward to the Quality Assurance Manager. The Quality Assurance Manager will send the proficiency test documentation to the proficiency test provider. All proficiency test documentation is maintained in the quality assurance records. Dates of proficiency testing are each identified by the due date to the proficiency test provider.

5.9.3.2

The Laboratory Quality Assurance Manager will ensure the Laboratory's proficiency testing program complies with the *ASCLD/LAB Proficiency Review Program*.

5.9.3.3

Each analyst and technician performing casework will successfully complete at least one internal or external proficiency test per calendar year in his/her forensic science discipline.

5.9.3.3.1

The proficiency test requirements of the *Quality Assurance Standards for Forensic DNA Testing Laboratories* and the *Quality Assurance Standards for DNA Databasing Laboratories* will be applied to DNA analysts and technical support personnel performing DNA analysis.

5.9.3.3.2

Each analyst and technician performing casework will successfully complete at least one proficiency test per accreditation cycle in each category of testing under the Laboratory's Scope of Accreditation in which the individual performs casework related activities.

5.9.3.4

At least one external proficiency test will be successfully completed each year for each discipline of forensic science the laboratory provides service in. When available an ASCLD/LAB approved test provider will be used. If an ASCLD/LAB approved proficiency test provider is not available the laboratory may use an internal proficiency test.

5.9.3.5

The Laboratory Quality Assurance Manager will maintain the proficiency testing records and proficiency testing program records to include:

- Test identifier
- Sample provider
- Individual performing the test
- Date of analysis and completion
- Documentation of all data and notes supporting the conclusions
- Proficiency test results
- Any discrepancies noted
- Documentation of the review and feedback to the individual performing the test and the Discipline Supervisor and/or the DNA Technical Manager
- Any corrective actions taken.

Proficiency test results are evaluated based on the discipline. Blood alcohol results must fall within two standard deviations of the grand mean reported by the provider. Controlled substances, fire debris, firearm, serial number restoration, tool mark, latent print, crime scene, and biological screening results must be consistent with the reported result by the provider. Should any variation of results arise within these categories of testing, the Discipline Supervisor and Quality Assurance Manager will evaluate on a case by case basis. DNA results are evaluated by the items listed under sub-category 13.1.7 of Standard 13 (proficiency testing) of the FBI QAS audit documents and checklists (current version) for forensic DNA testing and DNA databasing laboratories. DNA profile typing data must have no analytical errors. Results and conclusions reported must be consistent with the DNA section standard operating procedures and interpretation guidelines.

5.9.3.6

The Laboratory Quality Assurance Manager will maintain the proficiency testing records and proficiency testing program records for not less than five years.

5.9.4

The Laboratory will perform technical review on 100% of scientific examination records and test reports prior to release. The technical review process ensures the conclusions are reasonable within the constraints of the validated technical knowledge and supported by the examination records. Technical reviews are documented in the LIMS.

The Discipline Supervisor or the DNA Technical Manager will resolve any differences in opinion between the case analyst and the reviewer.

5.9.4.1

Each case record is technically reviewed to include a review of all examination records and the test report to ensure:

- Conformance with Laboratory and Discipline procedures;
- Data supports the results and/or conclusions;
- Accuracy of the test report;
- Associations are properly qualified in the test report;
- Test report contains all required information.

Additional guidelines for the technical review process may be outlined in the Discipline Procedure Manuals.

5.9.4.2

Technical reviews will be conducted by a qualified competency tested technician, analyst or supervisor who has extensive knowledge of the Discipline through casework, supervision, training and/or regular casework review. The reviewer will have knowledge of the Laboratory's technical procedures.

5.9.4.3

The technical reviewer will not have authored or co-authored the examination records or test report under review.

5.9.5

The Laboratory will perform administrative review on 100% of scientific examination records and test reports. The administrative review process ensures the completeness, correctness and clarity of the test reports issued. Administrative reviews are documented in LIMS and the administrative reviewer will not have authored or co-authored the examination records or test report under review. Administrative reviews will be performed by a qualified competency tested technician, analyst or supervisor who has extensive knowledge of the Discipline through casework, supervision, training and/or regular casework review.

5.9.5.1

At a minimum, the administrative review will include:

- A review of the test report for spelling and grammatical accuracy;
- A review of all administrative and examination records to ensure that the records are uniquely identified according to laboratory policies and procedures;
- A review of the test report to ensure that all key information is included;
- Chain of custody.

The administrative reviewer will review the Request for Laboratory Services Form, the test report, bench notes and all additional case documents to ensure agreement with the following areas:

- Requesting agency
- Agency case number
- Laboratory case number
- Officer name
- Agency item numbers and descriptions.

5.9.6

The Laboratory will monitor the testimony of all testifying personnel. Each testifying individual will have an evaluation of their testimony at least once per calendar year. Court monitoring provides constructive feedback both positive and any needed improvement.

This may be accomplished through one of the following methods:

- Direct observation by a Laboratory member, court officer or other individual present in the court room;
- Communication by Laboratory Management with a court officer.

The Witness Evaluation Forms are used to obtain testimony feedback. The form will be returned directly to the Laboratory's Quality Assurance Manager. The Quality Assurance Manager will review the form and provide a copy to the testifier's Supervisor. The Supervisor will provide the testimony feedback to the testifier.

If the feedback indicates needed improvement, the testifier's Supervisor will seek further information to determine the course of action to be taken. This communication will be documented as well as any remedial action that is taken. This documentation will be retained by the Quality Assurance Manager.

It is each individual's responsibility to advise their supervisor of any pending court appearances and seek testimony feedback. At the end of each calendar year Discipline Supervisors will notify the Quality Assurance Manager of any Discipline personnel that did not testify.

5.9.7

The Quality Assurance Manager will retain testimony monitoring records and any remedial actions taken for not less than five years.

5.10 Reporting the results

5.10.1 General

The Laboratory will issue reports that accurately, clearly, unambiguously and objectively provide the result of each test performed. The Laboratory ensures that all relevant information required by International Standard 17025 5.10.2 and 5.10.3 is contained in the case record.

5.10.1.1

If analytical work is performed and a report is not issued, the reason(s) for not producing a Laboratory report will be documented in LIMS. Discipline supervisors will evaluate the reason why a report of analytical work would not be issued but examples would include: the analyst is no longer employed at the laboratory or the case was closed by the prosecutor or submitting agency.

5.10.2 Test reports and calibration certificates

The case records will contain all information required by International Standard 17025 standard 5.10.2.

5.10.3 Test reports

5.10.3.1

The case records will contain additional information where necessary for the interpretation of the test results. Laboratory reports that contain the weight of controlled substances, concentration of blood alcohol, concentration of alcohol in a liquid, the barrel length of a firearm and/or the overall length of a firearm will include the measurement uncertainty. The report will state the expanded uncertainty and the coverage probability.

5.10.3.2

The case records will contain additional information regarding the results of a sampling where necessary for the interpretation of the test results.

5.10.3.3

Laboratory reports will only be released to the submitting agency and/or assigned prosecutor's office. The only exception to this policy is the dissemination of results by a grant administrator as part of grant reports or data gathered for grant purposes. The Forensic Laboratory Manager must give prior approval before the grant administrator can release information.

The Laboratory allows the release of preliminary findings and/or analyses prior to the issue of the final report. If the report is ready for review, the analyst performing the work or a technical reviewer can release preliminary information. If the status of the case is prior to "draft complete" in LIMS, then only the analyst can release information. The issuer will clearly indicate that information given is:

- Preliminary in nature
- Subject to change

- Requires a technical and administrative review.

A record of the release of information will be documented in the LIMS to include the person the information was provided to and the method provided.

5.10.3.4

Laboratory personnel who issue findings, including writing test reports and providing testimony, based on the examination records generated by another person will review and document the review of all relevant pages of the case record. This documentation will be placed in the LIMS.

5.10.3.5

The significance of any associations made will be communicated clearly and qualified properly in the Laboratory report.

5.10.3.6

Comparative examinations resulting in the elimination of an individual or object will be clearly communicated in the Laboratory report.

5.10.3.7

When a definitive conclusion cannot be reached, the laboratory report will clearly communicate the reason(s).

5.10.4 Calibration certificates

The accredited Disciplines of the Alaska Scientific Crime Detection Laboratory do not issue calibration certificates.

5.10.5 Opinions and interpretations

Opinions and interpretations will be clearly marked in Laboratory reports. The case record will document the basis upon which the opinions and interpretations have been made.

5.10.6 Testing and calibrations results obtained from subcontractors

Results of tests performed by subcontractors will be clearly identified.

5.10.7 Electronic transmission of results

The requirements of International Standard 17025 standard 5.4.7 will apply to the transmission of all test reports to include telephone, facsimile or other electronic transmissions.

5.10.8 Format of reports and certificates

Laboratory reports are formatted to accommodate all Discipline reports and minimize the possibility of misunderstanding or misuse.

5.10.9 Amendments to test report and calibration certificates

An amended report will be issued, when necessary, which clearly communicates the reason for the amended report. This new report will state “This report serves to replace or supplement the report issued on date.”

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Appendix A Key Control Procedure

1. All controlled Laboratory keys shall be stamped with numbers for tracking purposes. This Key Control procedure includes laboratory door keys, electronic keys and evidence locker keys.
2. The Forensic Laboratory Manager will be assigned the responsibility of being the Key Controller of all electronic keys and facility master keys. Discipline Supervisors shall be the Key Controller for all discipline specific areas as required. Discipline procedure manuals will outline the handling of discipline specific keys. All non-electronic keys will be tracked in the LIMS utilizing the chain of custody in the "Management" case. Electronic keys are controlled through the use of a Lenel OnGuard security system.
3. Electronic keys are assigned by the Forensic Laboratory Manager or designee to individuals who require facility access. Permissions to access areas of the facility are granted based on need. As an example:
 - A. Department of Public Safety employees have general building access (entrance/exit, hallways) and access to specific rooms as required (telecommunication closets, conference rooms).
 - B. Vendors may be granted general building and instrument room access as needed.
4. When an employee leaves the Department, the Supervisor shall be responsible for obtaining the controlled keys before the employee leaves and for returning the controlled keys to the appropriate Key Controller within five days. For those keys tracked in the LIMS, the Key Controller will show the return of the keys and retain the keys for future assignment.
5. Laboratory employees are responsible for exercising due care in preventing loss of facility keys. If a key is lost or stolen, the employee shall provide prompt, verbal notification to their immediate Supervisor. Upon verbal notification, the employee shall submit a memorandum to the Forensic Laboratory Manager. The written report shall include:
 - (1) Employee's name
 - (2) Employee's key number
 - (3) A brief description of the events surrounding the key loss

A copy of the memorandum shall be filed in the employee's personnel file.

When a key has been lost, the Forensic Laboratory Manager shall decide whether or not to rekey the affected locks within the Laboratory for security purposes.

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6. If a key is recovered at a later date, a memorandum shall be written to the Forensic Laboratory Manager by the employee originally responsible for that key. The key should be placed in the custody of the Key Controller and records changed to reflect the recovery. The memorandum should include:
 - (1) Employee's name
 - (2) Employee's key number - recovered key
 - (3) Date key was lost
 - (4) Brief description of events surrounding the finding of the key.

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Appendix B Controlled Documents Procedure

The Forensic Quality Assurance Program documents are controlled to ensure the documents have been approved for use and only current versions of the documents are in use. Controlled documents are posted on the Laboratory's internal network drive.

Controlled Document Review, Approval and Issuance

The Laboratory Quality Assurance Manual is reviewed and approved by the Forensic Laboratory Manager.

The Discipline Procedure Manuals and Discipline Training Manuals are reviewed and approved by the Discipline Supervisors and/or DNA Technical Manager.

The Health and Safety Manual is reviewed and approved by the Laboratory's Safety Coordinator.

All reviewed and approved manuals are sent to the Quality Assurance Manager. The Quality Assurance Manager will issue the manuals to the appropriate laboratory staff by placing them on the internal network drive.

Controlled Document Maintenance

The Quality Assurance Manager or designee will maintain the official controlled documents, place them on the internal network drive and archive all versions of the controlled documents.

The Quality Assurance Manager will maintain a Master Controlled Documents List. It will contain a list of all controlled documents indicating the active version and a list of all archived versions of each document.

Controlled Document Revisions

Revisions to controlled documents are reviewed and approved by the same authorities that approved the original document. Any revised or new text is identified in the revision history of each controlled document. The current document will be archived and the new version will be posted on the Laboratory's internal network drive by the Quality Assurance Manager or designee. All archived controlled documents are marked with a visible watermark and the status updated to "archived".

All controlled documents are reviewed at least annually no later than September 15. This review is performed by the same authorities that approved the manual. During this review process the staff may submit suggested changes to the manual. If a manual is reviewed and does not require an update then the reviewer will email the Quality Assurance Manager to document the review and that updates are not required at this time.

At any time a laboratory member may submit suggested changes to a manual to the approving authority for consideration.

Appendix C Purchasing Procedure

Each Discipline will maintain records of purchased supplies, reagents and consumable materials that affect the quality of tests and/or calibrations. These supplies, reagents and consumable materials will not be used in casework and/or calibrations until their reliability has been verified. Each Discipline will have procedures to ensure the quality and reliability of critical supplies, reagents and consumable materials. These procedures will also include the actions taken if a product fails to meet the quality standard set.

Vendors of critical supplies, reagents and consumable materials will be evaluated utilizing the Vendor Evaluation Form. The evaluation documentation will be maintained in the LIMS in the "VENDORS" case.

Reagent grade chemicals are purchased unless otherwise specified in a Discipline Procedure Manual.

Packing or shipping receipts are maintained to demonstrate receipt of the ordered supplies, reagents or consumable materials that could affect the quality of tests and/or calibrations as well as critical supplies, reagents or consumable materials.

The individual verifying the receipt of these items will place a check mark notating the receipt of each ordered item on the packing or shipping receipt. Signature or initials and date will be placed on the receipt as well. The packing or shipping receipts are stored in the purchasing records by vendor.

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Appendix D Laboratory Policies

- Policy 1 Case Management
- Policy 2 Independent Experts or Experts in Laboratory Facilities
- Policy 3 Syringes
- Policy 4 Laboratory Occupancy
- Policy 5 Scheduled Time Off and Court Conflicts
- Policy 6 Disclosure of Scientific Examination Records
- Policy 7 Disclosure of Breath Alcohol Records
- Policy 8 Laboratory Security
- Policy 9 Scientific Examination Report Dissemination
- Policy 10 Access to Laboratory Network Resources

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Policy 1 Case Management

It is the mission of the Laboratory to process all evidence in a timely manner while maintaining the highest quality of analytical results. All requests for laboratory service (RLS) submitted to the crime lab require data entry of the case into the Laboratory Information Management System (LIMS).

1. Cases having court mandated deadlines and/or those providing immediate investigative leads will receive priority attention. Then cases may be evaluated for probative value by the appropriate Supervisor.
2. Examination of evidence procured from the Laboratory Evidence Unit, or by any other means, should be performed as soon as possible and completed within 60 days of an Analyst receiving the evidence. If an examination cannot be completed within 60 days, the case analyst should notify the Discipline Supervisor.
3. When the scientific examination is complete, the evidence should be expeditiously returned to the appropriate storage facility (Laboratory Evidence Unit or Unit refrigerated/frozen storage). Evidence that has undergone complete processing should not be stored in the Laboratory. Exceptions to this are found in analytical protocols where specific items are retained in the Laboratory.
4. If case processing cannot begin due to lack of standards/exemplars, lack of information from the officer or prosecutor, or for any other reason outside of the control of the laboratory, then communication to the parties necessary to resolve the issue shall be initiated and documented in the LIMS system. The communication should contain appropriate statements informing the recipient(s) that an analysis will be performed once the necessary items/information are received. If no response is received within 30 calendar days, then communication may be sent to the affected parties explaining that the request for service is closed, evidence will be returned, and why this action has occurred. This shall be documented in the LIMS system and the request for service cancelled.
5. If a request from the submitting agency or District Attorney is received to withdraw the request for analysis, or if in the opinion of the supervisor, processing the case will provide no useful information, then the request for service may be cancelled. When a request is cancelled, communication detailing who, when and why the request was cancelled shall be sent to the affected parties, and documented in the LIMS system.

It is the responsibility of the Discipline Supervisor to monitor case progress and ensure cases are completed in a timely manner.

Policy 2 Independent Experts or Experts in Laboratory Facilities

1. Attorneys or independent experts (non-Laboratory employees) are not permitted to perform or view scientific examinations in Crime Laboratory areas. The reasons for this policy are as follows:
 - A. Liability - Outside personnel are not familiar with the Crime Laboratory, its potential hazards, safety rules, OSHA mandated Chemical Hygiene Plan, Exposure Control Plan, and specific equipment operation.
 - B. Security - Outside personnel would be disruptive to the normal work routine since all other regular case work would have to be stopped and secured while they were using the facility. To do otherwise would undoubtedly raise questions and possible objections on other cases. Laboratory security requires a continuous escort for visitors. Valuable examination time would be lost by Laboratory personnel providing this escort service.
 - C. Property Damage - The Laboratory utilizes a myriad of sophisticated instrumentation. State funding has been provided to ensure that Laboratory personnel can operate this equipment in a proper manner. It would be impossible to determine the competency of others prior to their use of the Laboratory's specific make and model of instrumentation.
 - D. Fiscal Responsibility - Use of state equipment by outside experts would prevent its use for current case examination by Laboratory personnel. It must be realized that private experts represent a commercial and often lucrative enterprise. Therefore, it should be incumbent upon them to provide their own equipment and supplies, rather than having state facilities made available to them at the State's expense.
 - E. Defense attorneys have the right under the Alaska Rules of Criminal Procedure to have evidence reanalyzed at a laboratory of their choice, rather than disrupting Laboratory operations.
2. Attorneys or non-Laboratory Forensic Experts will make arrangements to view evidence by contacting the case officer or prosecutor who will then coordinate the time and place of viewing with appropriate Laboratory personnel.

Policy 3 Syringes

The majority of syringe and needle submissions are recovered as a result of using other evidence as probable cause or in association with usable quantities of drug substances and, therefore, the syringes and needles are rarely of judicial importance.

1. It is the intent of this policy to unequivocally ensure the health and safety of each employee in the Crime Laboratory System while performing their assigned duties.
2. In order to minimize the chance of needle sticks to Laboratory personnel, the Crime Laboratory WILL NOT ACCEPT AND/OR PERFORM ROUTINE ANALYSIS OF SYRINGES.
3. Exceptions to this policy require prior approval of the responsible Supervisor when it has been determined that the syringe contains more than a residue (i.e. a visible volume of liquid that could be considered a usable amount) and that the analysis is necessary for prosecution.

Universal blood and body fluid precautions must be employed when analyzing the fluid contained in the syringes.

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Policy 4 Laboratory Occupancy

1. Due to safety considerations, no one should be alone in the Crime Laboratory while conducting scientific examinations, particularly those involving chemical or biological reagents, firearms, or other hazardous materials.
2. Personnel may work alone in the office area to conduct administrative duties such as: scientific report review; reports, paper or memo preparation; court preparation; latent print verifications; etc. Personnel may also operate analytical instrumentation workstations for data handling and printing of analytical results.
3. The laboratory's routine operational hours shall be from 6:00 AM to 6:00 PM Monday through Friday. Employees shall maintain a routine schedule approved by their supervisor within the operational hours of the laboratory.
4. Anyone who wishes to work after hours in the Laboratory must have prior approval of their Supervisor.

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Policy 5 Scheduled Time Off and Court Conflicts

Forensic staff by virtue of the very nature of the job has a professional obligation, as well as a legal responsibility, to respond to every subpoena received. When scheduled time off (vacation, day off, training, etc.) conflicts with a subpoena, the following protocol shall be followed:

1. Subpoenas take precedence over all scheduled time off.
2. When a verbal request for appearance in court is received, the scientist/technician should request a written subpoena be sent to serve as the official notification.
3. Unresolved scheduling conflicts involving court settings are to be brought to the attention of the scientist/technician's supervisor as soon as they develop. The Forensic Laboratory Manager may also be informed as needed.
4. Under no circumstances is a scientist/technician to advise a prosecutor that they will not respond to a court request due to interference with time off, however, it is acceptable to discuss scheduled vacation time with a prosecutor to determine if alternate plans for the court appearance are possible.
5. At the discretion of the supervisor and with concurrence from the prosecutor, court/time off conflicts may be resolved by having the evidence reanalyzed, giving testimony from the Laboratory records, or telephonic testimony. However, should neither of these remedies be feasible and testimony still required the scientist/technician will be expected to alter time off plans to allow testimony to be given.
6. In the interest of avoiding court conflicts with scheduled time off, Laboratory administrative staff or supervisors may advise prosecutors of a scientist/technician leave plans by sending out letters announcing the planned absences. Such letters, however, in no way reduce the scientist/technician's responsibility regarding subpoenas and court settings.

Policy 6 Disclosure of Scientific Examination Records

1. Routine disclosure of scientific examination records will include those items utilized for rendering an expert opinion in the case at hand and will be provided upon request from the prosecutor's office.
2. Discipline Procedure Manuals, Laboratory Quality Assurance Manual, and other documents related to the operation of a discipline or the Laboratory will be provided relevant to the time frame of the testing. If these records are available electronically, they will be provided electronically. If these items are not available electronically, these items will be available for viewing by appointment at the laboratory.
3. Raw data files pertaining to instrumental analysis will not be retained with the exception of data from genetic analyzers.
4. Copyrighted or licensed materials will not be copied or disseminated by the Laboratory and can only be released by the owner of the information or documents.
5. Public information not proprietary to the Laboratory (vendor, instrument or software manuals, journal articles or papers) will not be provided by the Laboratory.

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Policy 7 Disclosure of Breath Alcohol Records

1. Routine disclosure of Breath Alcohol documents (calibration, certification, repair) related to the breath alcohol instruments will be provided electronically. This is limited to the information closest in time prior to the subject test in question. This information will be provided upon request from the prosecutor.
2. Routine disclosure of subject tests performed on a breath alcohol instrument will be provided electronically upon request from the prosecutor. This information is limited to 60 days prior and 60 days after the subject test in question.
3. Copyrighted or licensed materials will not be copied or disseminated by the Laboratory and can only be released by the owner of the information or documents.
4. Public information not proprietary to the Laboratory (journal articles, papers) will not be provided by the Laboratory.

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Policy 8 Laboratory Security

The Laboratory routinely handles evidence related to all types of criminal matters. This evidence includes firearms, drugs, hazardous materials, and many other types of evidence. In order to ensure the integrity of this evidence, it is necessary that all Laboratory facilities be properly secured as follows:

1. Non-Laboratory personnel may not be in those areas of the Laboratory where evidence is present unless a Laboratory employee is also present. At no time will non-Laboratory personnel be alone in an area where there is unsecured evidence.
2. Exceptions will be made in the case of medical emergency or other critical incidents.
3. Ultimate access to Laboratory facilities will be determined by the Forensic Laboratory Manager.
4. All facility entrance points are monitored by video camera and the recorded video stored for at least 180 days.
5. Where doors are equipped with an electronic reader, all reader events are stored for at least 180 days.

AST evidence personnel co-occupy the evidence vault and work areas of the evidence area. They do not have access to any discipline laboratory spaces.

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Policy 9 Scientific Examination Report Dissemination

1. The method for dissemination of scientific examination reports shall be by State E-mail system to customers agency e-mail address.
2. If the customer does not have an agency e-mail address, then the scientific examination report shall be faxed, or sent by US mail.
3. Reports may not be e-mailed to personal e-mail accounts (such as gmail, yahoo).
4. A customer may pick up a paper copy of the scientific examination report in person.

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Policy 10 Access to Laboratory Network Resources

The Laboratory utilizes various networked information technology devices to store case files, notes, manuals, protocols, and other electronic documents. These devices are administered by the Information Services (IS) Department of the Department of Public Safety.

Permissions (read, write, delete) are granted by the IS department at the request of the Forensic Laboratory Manager. Discipline supervisors shall make requests to the Forensic Laboratory Manager (who ultimately will decide on the level of access) on behalf of their staff and themselves. The Forensic Laboratory Manager shall make request of the IS department to grant/deny the requested permissions. Full permissions shall mean full control. Read only shall include read, read & execute, list folder contents.

1. SQL Server Databases
 - a. Jtrax
 - i. All Laboratory staff shall have data reader/data writer permission
 - b. Breath Alcohol
 - i. All staff assigned to the breath alcohol program shall have data reader/data writer permission
2. Storage Area Network (I drive)
 - a. The Forensic Laboratory Manager shall have full permissions over the I drive
 - b. All Laboratory staff shall have full permissions except as follows
 - i. Quality Assurance Program (however so named by the QA Manager)
 1. Only the QA manager and Forensic Laboratory Manager shall have full permissions
 2. All other Laboratory Staff shall have read only permission (may not change or delete)
 - ii. Discipline shares
 1. Staff assigned to a discipline shall have full permissions over the discipline share
 2. All other laboratory staff shall have read only permission
3. Personal Drives (P)
 - a. Permission shall be only to the individual analyst.
4. Jtrax Share
 - a. Security for files located in the Jtrax share are controlled and audited by the JusticeTrax software and as such, all laboratory staff shall have full permissions over the share.
5. JusticeTrax
 - a. User accounts and user security are created/assigned by the Forensic Laboratory Manager or his designee.
6. Information Services access requirements and restrictions.
 - a. Information Services staff will only access Forensic Laboratory information technology resources to the extent necessary to maintain normal operational status (eg. Backup, connectivity, etc) and shall make every effort to avoid direct contact with user data unless directed by the Forensic Laboratory Manager.

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- b. Information Services will make every effort to coordinate efforts with the Forensic Laboratory Manager when performing service, repair, and upgrades to information technology resources that may impact the Forensic Laboratory.
- c. Physical Access Security – Users (including IT staff) obtain a badge to enter into the building. The servers and storage are in lockable rooms.
- d. Login Access - IT staff only, has administrative login access to the keyboard/monitor in the server rooms used by all servers.
 - i. Individual server login access is possible only with IT administrative credentials. – screens lock on servers after 10 minutes.
- e. Data backup – All data is stored on the CrimeLab NetApp SAN – it is backed up to tape once a day and snapshots of the data are taken 3 times /day (tape backup horizon – 6 months; snapshot backup horizon – 1 week). These snapshots are sent to the NetApp SAN at 5700 Tudor.
 - ii. Access to the backed up files is restricted to IT administrators.

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Appendix E Case Assignment

The routine system of case assignment is based on submission date to the Laboratory. Cases are generally worked in the order received. Exceptions are made based on rush requests made by the customer. These requests are normally based on court dates or the need for investigative information. Discipline supervisors or their designee evaluate and approve rush requests when appropriate. Reasons for approved rush requests are documented in the LIMS.

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Appendix F Revision History

2013 R2	2013 R1	Location	Revision made
all	all	all	Page numbers updated where needed.
N/A	29	5.4.6	Removed "The Laboratory will be in compliance with the most current, published version of the ASCOD/LAB Policy on Estimation of Uncertainty of Measurement by the implementation date required by the accrediting body."
29	29	5.4.6.2	Replaced "Measurement of uncertainty applies to the firearms, blood alcohol and the Chemistry Disciplines of the Laboratory. Each of these Disciplines will maintain records related to measurement of uncertainty." with "The Laboratory has a procedure to estimate the uncertainty of measurement when values are reported for the weight of controlled substances, concentration of blood alcohol, concentration of alcohol in a liquid, the barrel length of a firearm and/or the overall length of a firearm. The procedures will include the process of rounding the expanded uncertainty and the coverage probability of the expanded uncertainty will be a minimum of 95%. The procedures are kept in the Discipline records of controlled substances, alcohol, and firearms."
29	29	5.4.6.3	Replaced "Estimation of the uncertainty of measurement will be based on knowledge of the performance of the method and previous experience as well as any significant parameters that affect the measurement result." with "Estimation of the uncertainty of measurement was based on knowledge of the performance of the method and previous experience as well as any significant parameters that affect the measurement result to include: <ul style="list-style-type: none"> • Statement of the measurand • Statement of the measurement traceability • Equipment used • All uncertainty components considered • All significant uncertainty components and their evaluation • Data used to estimate repeatability and/or reproducibility • All calculations • The combined standard uncertainty, the coverage factor, the coverage probability, and the resulting expanded uncertainty • The schedule to review and/or recalculate the measurement of uncertainty."

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2013 R2	2013 R1	Location	Revision made
32	31	5.6.1	Added "Each Discipline will utilize a calibration laboratory accredited to ISO/IEC 17025:2005, with a scope of accreditation covering the calibration performed, for all calibrations where the calibration has a significant effect on the accuracy or validity of the sampling or test result, or total uncertainty of the test result."
39	38	5.9.4	Removed "and the technical reviewer's name is printed on the test report." from the end of the last sentence.
41	41	5.10.3.1	Added "Laboratory reports that contain the weight of controlled substances, concentration of blood alcohol, concentration of alcohol in a liquid, the barrel length of a firearm and/or the overall length of a firearm will include the measurement uncertainty. The report will state the expanded uncertainty and the coverage probability."
N/A	43	Appendix A Uncertainty of Measurement Implementation Plan	<p>The Uncertainty of Measurement Implementation Plan was removed. Other Appendices order was updated. Removed "This plan is designed to comply with the ASCLD/LAB- International Policy on Measurement uncertainty document when required by the accrediting body. The Quality Assurance Manager, Forensic Alcohol Discipline Supervisor, the Controlled Substances and the Firearms Discipline Supervisor in coordination with the Forensic Laboratory Manager will be responsible for the oversight, development and implementation of a Measurement of Uncertainty policy. The Uncertainty of Measurement policy developed will apply to the following numerical reported values:</p> <ul style="list-style-type: none"> • Weights of controlled substance samples • Alcohol concentration in biological samples • Alcohol concentration in non-biological samples • Barrel length of a firearm • Overall length of a firearm • Trigger pull weights in firearms cases. <p>The following elements for each test will be identified and recorded:</p> <ul style="list-style-type: none"> • Measurand and its measured value • Measuring device and/or instrument • All significant components that contribute to the sources of uncertainty • Data used to estimate repeatability and reproducibility • Uncertainty attributed to the value of the measurand, an expanded uncertainty, and the specific coverage probability."

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Vendor Approval for Critical Supplies and Services Form

Evaluator: _____ Date: _____

Supply evaluated _____

Name of Supplier _____

1. Is this vendor ISO certified? YES NO

ISO standard _____

Certifying body _____

Certification number _____

OR

2. Has this vendor been able to satisfy needs in the past? YES NO

Timely service _____

Cost effective _____

Previously passed QC _____

Comments: _____

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Peer Expert Witness Evaluation Form

Witness: _____ **Witness' Discipline** _____

Reviewer: _____ **Date** _____

Rate the following categories as either: (N) Needs Improvement (S) Satisfactory or (O) Outstanding
Comments must be added for any Outstanding or Needs Improvement rating.

Professional Appearance (appropriate attire, etc.)

(N) (S) (O)

Voice Clarity (volume, tempo, modulation)

(N) (S) (O)

Body Language (posture, gestures, facial expressions, etc.)

(N) (S) (O)

Courtroom Demeanor (confidence, eye contact, nervousness, temper)

(N) (S) (O)

Technical Explanations (accurate, easily understood, examples)

(N) (S) (O)

Notes, Case Information (use of notes, in order, well-organized, etc.)

(N) (S) (O)

Answers (answered questions asked, too much/little detail)

(N) (S) (O)

Cross Examination (objective, unbiased, fair)

(N) (S) (O)

Visual Aids - Write N/A if Not Applicable

(N) (S) (O)

For Laboratory Use Only:

Date _____

Reviewed and Received _____

Reviewed and Provided to Testifier _____

Testifier

Supervisor

Alaska Scientific Crime Detection Laboratory

Quality Assurance Manual

Issued: 12/19/2013
Effective: 12/19/2013

Version: QAM 2013 R2
Status: Archived

Quality Review Form

Date _____

Discipline or Category of Testing _____

Completed by _____

Occurrence of Nonconformity or Significant Deviation from Laboratory Policy

Evaluation of the Significance

Review by Quality Assurance Manager

Moves Forward to Corrective Action Report Procedure

Yes No

Justification of Decision

ARCHIVED 9/19/2014

Alaska Scientific Crime Detection Laboratory

Quality Assurance Manual

Issued: 12/19/2013
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Corrective Action Report Form

Description of NONCONFORMITY or INCONSISTENCY

Reported by _____

Date _____

ROOT CAUSE ANALYSIS Consider all possible sources of nonconformity or inconsistency to include an evaluation of the methods, procedures, equipment, supplies, training, personnel, work environment, etc.

Review by _____

Date _____

INCONSISTENCY RATING (Check one of the circles below)

- Level 1 – The nature or cause of the nonconformance directly affects and has a fundamental impact on the work product of the laboratory or the integrity of evidence, or there is a concern that if the nonconformance continues for an extended period the work product of the laboratory or integrity of evidence could be negatively affected.
- Level 2 – The nature or cause of the nonconformance does not, to any significant degree, affect the fundamental reliability of the work product of the laboratory or the integrity of evidence, and allowing the laboratory to complete the corrective action over an extended period does not raise an immediate concern.

QA Manager _____

Date: _____

CORRECTIVE ACTION PLAN Corrective actions shall be relevant for the level of the nonconformity and shall be monitored for effectiveness. It is strongly recommended that the corrective action plan list after-action monitoring requirements and timelines for monitoring.

Endorse and approved by the following

Supervisor or Technical Manager _____

Date _____

QA Manager _____

Date _____

CONFIRMATION OF CORRECTIVE ACTION

Signature _____

Date _____