



Wilmington Police Department Crime Laboratory
Quality System Manual

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Quality Policy

The Wilmington Police Department Crime Laboratory is committed to applying sound scientific principles and the highest quality of service to the evaluation and interpretation of physical evidence for our customers with integrity and ethics in the performance of our professional duties. We are dedicated to using our resources in an efficient manner, maintaining a safe and healthy work environment, recognizing our employees as our most valuable asset, assisting personnel to attain their full potential, creating an environment that stimulates initiative, fosters creativity, and promotes pride in our work. We ensure that all testing services comply with regulatory requirements and that all personnel are competent and qualified for their assigned tasks. All personnel familiarize themselves with the quality system documentation in order to implement the policies and procedures in their work in order to professionally and effectively produce accurate and precise results. We are committed to complying with ISO/IEC 17025 to ensure quality services and continually work to improve the Quality Management System.

Issued under the authority of:

Bethany P. Pridgen, MFS
Forensic Lab Director

Date

Ralph M. Evangelous
Chief of Police

Date



1.0 Management Requirements

1.1 Organization

- 1.1.1 The Wilmington Police Department (WPD) Crime Laboratory is a publicly funded government forensic laboratory located within the Wilmington Police Department. From this point forward, the Wilmington Police Department Crime Laboratory will be referred to as “the laboratory” or simply “we” or “our.” The Wilmington Police Department will be referred to as “the department” and the City of Wilmington (COW) as “the city.”
- 1.1.2 All testing activities in the laboratory are carried out in such a way to meet the requirements of the ISO/IEC 17025:2005 standard (International Standard) and ASCLD/LAB additional requirements, and to satisfy the needs of our customers, regulatory authorities and other recognizing organizations.
- 1.1.3 The Quality Management System covers work carried out in the laboratory’s permanent facility located at 615 Bess Street, Wilmington, North Carolina.
- 1.1.4 The laboratory maintains a clearly documented organizational structure which defines authority, interrelationships and responsibilities of personnel throughout the laboratory. All testing in the laboratory is performed under the direction of the Forensic Lab Director.
- 1.1.5 a. The Forensic Lab Director has the authority and resources to effectively operate the laboratory, train personnel, satisfy customers requirements, implement, maintain and, where this fails, identify, minimize and correct, departures from the management system and from testing procedures. The Forensic Lab Director has overall responsibility for the technical operations of the laboratory and maintenance and improvement of the management system. The Chief of Police has overall responsibility for provision of the resources needed to ensure the required quality of laboratory operations.
- b. Our organizational structure is designed to prevent, minimize and correct breaches of integrity. Laboratory management monitors testing activities to ensure they are accurate and conducted honestly and in good faith. Laboratory management acts as a liaison between laboratory personnel, the department administration and customers to prevent undue pressure that may adversely affect the integrity of the testing activities. Financial issues, customer influences, deadlines and unforeseen circumstances that have the potential to influence testing accuracy are minimized to the extent possible. If testing integrity is ever in doubt due to unforeseen circumstances, we will cease testing activities until the situation is resolved. If a laboratory employee believes there is undue influence on testing personnel, he/she is directed to report concerns to the Forensic Lab Director. The Forensic Lab Director reports findings of undue influence or violations of testing integrity directly to the Office of the Chief.



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c. We are committed to the protection of all confidential information in regard to customers, the department and the laboratory. Protection of confidentiality includes procedures for protecting the electronic storage and transmission of results and adheres to the Wilmington Police Department Policy Manual Chapter 2.15 Dissemination of Information which states:

Members shall treat the official business of the department as confidential. Information regarding official business shall be disseminated only to appropriate persons, in accordance with established departmental policy. Members may remove or copy official records or reports only in accordance with State law and established departmental policy. They shall not divulge the identity of persons giving confidential information except as authorized or required by policy, law or other proper authority. Citizens requesting information that is "non-public" in nature shall be directed to use official channels. No member shall publicly comment on department cases or investigations that are pending adjudication in court or internal resolution. No member shall comment on any personnel issues, as they are considered confidential by law.

d. Laboratory personnel adhere to all applicable policies of the WPD Policy Manual taking special notice of Chapter 2 – Rules of Conduct. The laboratory requires annual ethics training to ensure compliance with the ISO 17025:2005 standard and the ASCLD/LAB "Guiding Principles of Professional Responsibility for Crime Laboratories and Forensic Scientists".

All laboratory personnel are vetted by a thorough background check prior to employment with the city. Laboratory personnel adhere to all applicable department policies and all laboratory policies for training, ethics, and conduct to ensure confidence in their competence, impartiality, judgment or operational integrity.

e. The laboratory's organization and management structure are defined in an organization chart.

f. The laboratory maintains written job descriptions for all personnel. Job descriptions specify responsibilities, authority and interrelationships of these personnel. Each employee within the laboratory reports to a single supervisor.

g. The laboratory organization chart and job descriptions demonstrate that experienced personnel provide adequate supervision to other personnel who perform testing.

h. The Forensic Lab Director is responsible for all technical operations and, with the Chief of Police, provision of resources needed for laboratory operations.

i. The Quality Manager is responsible, and has the authority, to ensure the management system related to quality is implemented and followed at all times. The Quality Manager has direct access to top management for matters regarding quality.

j. When necessary, the Quality Manager acts as the Forensic Lab Director and the Forensic Lab Director acts as Quality Manager. If one person is assigned double duty



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and is on leave or is absent, that person provides laboratory personnel a way to contact them to address immediate issues. If this person cannot be reached then testing is halted, if deemed necessary by laboratory personnel, until the acting Manager or Director becomes available.

k. The Forensic Lab Director is responsible to communicate to laboratory personnel the relevance and importance of their activities and contributions to the objectives of the management system. This is accomplished by providing reports and feedback from corrective actions, audits, annual reviews, quality reviews, proficiency tests and management reviews.

1.1.6 The Forensic Lab Director is responsible to ensure communication processes are established within the laboratory and with top management regarding the effectiveness of the management system. This is accomplished by providing reports and feedback from audits, annual reviews, quality reviews, proficiency tests and management reviews.

1.1.7 The Forensic Lab Director acts as the Health and Safety Manager and has the responsibility and authority to ensure that the Chemical Hygiene Plan (CHP) is implemented and followed at all times. The Forensic Lab Director designates a member of personnel to act as the Chemical Hygiene Officer (CHO) and perform and designate the duties within the CHP. Other laboratory personnel perform duties within the CHP as assigned.

1.1.8 The Administrative Services Captain and Forensic Lab Director are defined as top management for the laboratory. The laboratory organization chart identifies key management personnel.

Related Documents:

ASCLD/LAB "Guiding Principles of Professional Responsibility for Crime Laboratories and Forensic Scientists"
WPD Policy Manual: Chapter 2.15, page 44 – Dissemination of Information
Chemical Hygiene Plan, QD002
Forensic Lab Director Job Description
Forensic Chemist Job Description
Forensic Chemist (part-time) Job Description
Forensic Lab Technician Job Description
Police Officer/Digital Evidence Forensic Examiner Job Description
Crime Scene Supervisor Job Description
Crime Scene Technician/Latent Print Examiner Job Description
Wilmington Police Crime Laboratory Organization Chart, QD003
Wilmington Police Department Organization Chart, QD004
WPD Policy Manual

1.2 Management System



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1.2.1 The laboratory has established and implemented a management system that is continually monitored and maintained, and is appropriate for the testing performed. The laboratory documents all policies, systems, programs, procedures and instructions to ensure the quality of test results. This documentation forms the basis of initial and annual personnel training.

1.2.2 The laboratory's management system policies, related to quality, are documented in this Quality Manual. The quality policy is located at the start of the manual to emphasize the importance of quality to all laboratory personnel and customers. Overall objectives of the management system are reviewed during management review by top management. The system's documentation is communicated to, understood by, available to and implemented by the appropriate personnel.

1.2.2.1 As part of the laboratory's commitment to good professional practice, the ASCLD/LAB Guiding Principles of Professional Responsibility for Crime Laboratories and Forensic Scientists is a required part of initial and annual training for personnel.

1.2.2.2 Records of the ASCLD/LAB professional responsibility training are maintained in personnel files.

1.2.3 Top management provides evidence of commitment to the development and implementation of the management system and continual improvement of its effectiveness through the implementation of, but not limited to, the following processes: internal audits, management reviews, training, corrective action, preventive action, and laboratory meetings.

1.2.4 Top management ensures laboratory personnel understand the importance of meeting customer requirements and statutory and regulatory requirements through a comprehensive training program, positive feedback, and ongoing professional development.

1.2.5 All management system and technical procedures that document the system are found in, and monitored through, the Controlled Documents List. The structure of documents used within the quality system is:

- Manuals
- Standard Operating Procedures
- Forms

1.2.6 The roles and responsibilities of all members of the laboratory are fully defined in written job descriptions and include responsibility for ensuring compliance with the International Standard, ISO/IEC 17025:2005.

1.2.6.1 The Quality Manager's responsibilities include:

- ensuring the management system is implemented and followed at all times;
- maintaining and updating the Quality Manual;
- monitoring lab practices to verify continuing compliance with policies and procedures related to quality;



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- evaluating instrument calibration and maintenance records;
- periodically assessing the adequacy of test report review activities;
- ensuring validation of new technical procedures;
- investigating technical problems, propose corrective actions, and verify their implementation;
- administering PT samples and evaluating results;
- selecting, training, and evaluating internal auditors;
- scheduling and coordinating management system audits;
- evaluating results of management system audits;
- maintaining training records;
- recommending training to improve the quality of lab personnel;
- acting as Forensic Lab Director when needed;
- processing corrections and improvements in the management system.

1.2.6.2 The Forensic Lab Director's responsibilities include:

- overall technical operations;
- supervision of laboratory personnel;
- implementation, maintenance, and improvement of the management system;
- identify departures from the management system or from technical procedures;
- ensuring the laboratory has sufficient resources to perform testing;
- communicating to laboratory personnel the objectives of the management system.
- providing personnel with feedback from audits, annual reviews, quality reviews, proficiency tests and management reviews;
- acting as Quality Manager when needed.

1.2.7 Top management, assisted by the Quality Manager, ensures the integrity of the management system is maintained when changes to the system are made. A review of the system is performed to ensure no inadvertent and unexpected consequences result from the change.

1.3 Document Control

The laboratory controls all documents that form part of its management system, both internally generated and from external sources, including but not limited to: regulations, standards, other normative documents, test methods, drawings, software, specifications, instructions and manuals.

Documents are approved and authorized by the Chief of Police and Forensic Lab Director prior to issue. The Quality Manager is responsible for issue of controlled documents within the management



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system. The laboratory maintains a Controlled Document List identifying title, effective date and current revision status of documents, to preclude the use of invalid and/or obsolete documents.

Changes to documents are reviewed and approved by the Forensic Lab Director and the Chief of Police unless other reviewers are specifically designated. Altered or new text in revised documents is identified in the document revision table. Handwritten amendments to documents are not allowed.

All requirements for document control, followed by the Laboratory, are included in the Document Control SOP, QP101.3.

Related Documents: Controlled Document List, QD007
 Document Control SOP, QP101.3
 Document Review Form, QF201.3

1.4 Review of Requests, Tenders and Contracts

The laboratory provides limited testing to law enforcement agencies other than the department. A prerequisite to testing is an Agreement to Perform Casework, reviewed and signed by the requesting agency's authorized personnel. The agreement references regulatory authorization to perform testing (if required), standard operating procedures used for the testing, documentation required for evidence submission and a deadline for reporting results. The agreement references how any differences between request or tender and the contract are resolved.

A record of significant changes to the request, tender and/or contract or pertinent discussions with the customer relating to the customer's requirements or the results of the work are described in the notes section of the individual case record in the Crime Lab Database or maintained in the case file. Any deviations from the contract are reported to the customer by the Forensic Lab Director Manager. Any changes to a contract are reviewed and communicated to all affected personnel.

Related Documents: None

1.5 Subcontracting of Tests

The laboratory does not subcontract work.

1.6 Purchasing Services and Supplies

Laboratory personnel do not make any direct purchases of services and supplies. The City's policies and procedures for purchasing of services and supplies are found in the Purchasing Policy (Policy 103) – City of Wilmington (June 2014). The Purchasing Division of the Finance Department is the central purchasing authority of the City of Wilmington. Laboratory personnel provide the information as needed to the Purchasing Division to procure quality supplies and services. Purchases of reagents and laboratory consumables that are initiated by laboratory personnel are requested



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through the Forensic Lab Director or designee. The Forensic Lab Director or designee works with the Administrative Services Division Fiscal Support Specialist and city purchasing to provide specifications for supplies and services, quotes and other related material.

The laboratory takes steps in addition to the required city purchasing policies to ensure compliance with ISO 17025:2005 requirements for the purchase, receipt, inspection and/or verification, and storage of reagents and consumable materials. The laboratory maintains a list of laboratory approved vendors.

Related Documents: Purchasing SOP, QP101.6
Purchasing Policy (Policy 103) – City of Wilmington (June 2014)
List of Approved Vendors, QD009

1.7 Service to the Customer

The laboratory provides a process for submission of requests for analysis from the customer through the Request for Examination form (QF202.8). We monitor laboratory performance by tracking date of receipt, date of completion, notification to customers of deviations from contracts and date of information release to the District Attorney's offices. Records of work performed and final results are held in strict confidence per WPD Policy Chapter 2.15 Dissemination of Information and released according to the Quality and Technical Records SOP, QP101.13.

The laboratory seeks both positive and negative feedback from customers, including members of law enforcement agencies and prosecuting and criminal defense attorneys, on an annual basis by providing a survey. Results from feedback are reviewed and analyzed during Management Review to determine areas for improvement in the management system, testing services and customer service.

Related Documents: WPD Policy Manual: Chapter 2.15, page 44 Dissemination of Information
COW Administrative Policy 405 – Public Records Policy
Quality and Technical Records SOP, QP101.13
Customer Service Survey, QF101.7
Request for Examination Form, QF202.8

1.8 Complaints

For complaints associated with laboratory work, for example incorrect results reported, inadequate court performance, the Forensic Lab Director initiates a corrective action using corrective action form, QF201.11. The complaint is processed and documented using the form in accordance with procedure QP101.11, Corrective Action. After completion of the corrective action process, complaints may be referred to Internal Affairs as described below.



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Other complaints are referred to Internal Affairs per WPD Policy Manual, Directive 3.01 Internal Affairs and Chapter 2 – Rules of Conduct. Grievances are filed according to the City of Wilmington Administrative Policy 207 – Employee Grievances. Complaints of harassment, discrimination or hostile work environment are filed according to City of Wilmington Administrative Policy 213 – Harassment and Discrimination and addressed directly by Human Resources.

Related Documents: WPD Policy Manual: Directive 3.01– Internal Affairs
WPD Policy Manual: Chapter 2 – Rules of Conduct
COW Administrative Policy 207 – Employee Grievance
COW Administrative Policy 213 – Harassment and Discrimination
Corrective Action SOP, QP101.11

1.9 Control of Nonconforming Work

The laboratory addresses non-conforming testing work by implementing the laboratory's non-conforming work processes. When nonconforming work is recognized, it is reported to the Quality Manager. The Quality Manager has the authority and responsibility to manage nonconforming work. All laboratory personnel are authorized to halt work if necessary and report the non-conforming work immediately to the Quality Manager. The Quality Manager decides appropriate action (such as halting work or withholding test reports). The Quality Manager evaluates the significance of the nonconforming work using the Control of Nonconforming Work Form. Correction is taken immediately and a decision is made about the acceptability of the nonconforming work. When necessary, the customer is notified and work is recalled. The Quality Manager reports all occurrences to the Forensic Lab Director who authorizes resumption of work after resolution of the situation.

The Forensic Lab Director, together with the Quality Manager, evaluates if the nonconforming work could recur or if laboratory operations do not comply with its own policies and procedures. If the above findings are determined, then the Corrective Action Procedure in Section 1.11 is followed in accordance with procedure QP101.11, Corrective Action.

Related Documents: Control of Non-conforming Work SOP, QP101.9
Control of Nonconforming Work Form, QF201.9

1.10 Improvement

As a laboratory committed to quality, we continually seek to improve our Management System. We use our quality policy, quality objectives, audit results, analysis of data, corrective and preventive actions and management review to identify improvements to the system.

Related Documents: None



1.11 Corrective Action

When departures from Management System procedures and policies or technical procedures are discovered, the situation is remedied through a documented corrective action process. The corrective action procedure designates the individual(s) with authority over this process and how corrective action is implemented.

When a problem is identified, the Quality Manager investigates to determine its severity, root cause and if formal corrective action is necessary. If a corrective action is initiated by the Quality Manager, it is directed at the root cause to prevent recurrence. The depth of corrective action is relative to the severity of the problem and the risks it poses to the quality of the laboratory's work.

Corrective actions are monitored to ensure actions taken are effective.

Related Documents: Corrective Action SOP, QP101.11
Corrective Action Form, QF201.11

1.12 Preventive Action

Preventive action is a pro-active process of monitoring the management system to identify areas for improvement. When preventive actions are initiated to prevent the cause of a problem, an action plan is developed, implemented and monitored to ensure they are effective.

Related Documents: Preventive Action SOP, QP101.12
Preventive Action Form, QF201.12

1.13 Control of Records

The laboratory has documented procedures to identify, collect, index, access, file, store, maintain and dispose of quality and technical records. Quality records include for example internal audit records, management review records and corrective and preventive action records. Technical records include for example original observations, derived data and information necessary to establish an audit trail, calibration records and certificates and staff records.

All quality records are legible, retrievable and stored in such a way to prevent damage, deterioration or loss. These records are kept secure and confidential and when possible in electronic form as the ultimate protection against tampering and loss. All electronic media are backed up at minimum on a semi-annual basis. The laboratory has established specific retention times for records as noted in the Records Retention Schedule.

The Quality and Technical Records procedure, QP101.13, identifies what records are generated and retained for both quality and technical operations. Specific additional ASCLD/LAB requirements are addressed in this SOP to ensure complete, auditable, traceable and compliant records are



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retained by the laboratory. How the laboratory maintains electronic records is also described in this SOP.

Related Documents: Quality and Technical Records SOP, QP101.13
Records Retention Schedule, QP101.13, Appendix A

1.14 Internal Audits

The Quality Manager schedules and oversees periodic auditing of the entire Management System in accordance with the internal audit procedure. These audits ensure compliance with our own procedures and policies, all elements of the management system, ISO 17025 and ASCLD/LAB requirements. The audit program includes all elements of the Management System and testing operations. The audit of the Management System is completed on an annual basis and is divided into smaller audits completed each quarter according to a predetermined schedule. Auditors are qualified, and where resources permit, independent of the activity they audit.

The audit checklist(s), used to record results of internal audits, are retained through at least one accreditation cycle or for five years, whichever is longer.

Whenever our audit findings question the effectiveness of our operations or the correctness of our testing, the findings are processed according to the corrective action procedure. Affected customers are notified in writing if laboratory results are affected. Follow up audits are used to verify and record the implementation and effectiveness of the corrective action taken.

An Annual Report to ASCLD/LAB is submitted within thirty (30) calendar days following the laboratory accreditation anniversary date.

Related Documents: Internal Audit SOP, QP101.14
Internal Audit Schedule, QP101.14, Appendix A

1.15 Management Reviews

Management review meetings are scheduled to occur at least once per year. The meetings consist of all top management members and are recorded by the Quality Manager. Top management may schedule additional meetings when deemed necessary. The management review is conducted by reviewing the overall laboratory Management System and testing activities to ensure their continued effectiveness and to introduce necessary changes or improvements. Goals, objectives and action plans for the coming year result from these meetings. The review assesses the suitability of policies and procedures, reports from managers and supervisors, internal audit results, corrective actions, preventive actions, assessments by external bodies, inter-laboratory comparisons or proficiency tests, changes in work volume or type, customer feedback and complaints, improvement recommendations, and other factors, such as quality control activities, resources and staff training.



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Management review findings and actions are recorded, action items are assigned and time frames are set for their completion. Completion of action items is monitored by the Quality Manager and reported to all top management personnel.

Related Documents:

Management Review SOP, QP101.15
Management Review Report, QF201.15



2.0 Technical Requirements

2.1 General

The laboratory acknowledges that many factors contribute to the accuracy, precision and total measurement uncertainty of our testing. We consider contributions from all the following factors: human error, accommodation and environmental conditions, test methods and method validation, equipment, measurement traceability, sampling and handling of test items. The contribution of these factors to accuracy, precision, and total measurement uncertainty differ between types of tests; therefore the laboratory takes these factors into account when developing test methods and procedures, in the training and qualification of personnel and in the selection of the equipment used.

The laboratory has a procedure, Reagent Check SOP, QP102.1, for checking the reliability of reagents used in testing. Reagents are labeled with the identity of the reagent, the date of preparation or lot number, and who made it. Records of reagent preparation and reliability testing, performed prior to reagent use for testing, are maintained as quality records.

Related Documents: Reagent Check SOP, QP102.1

2.2 Personnel

2.2.1 Management only allows competent and qualified personnel to perform activities that directly or indirectly affect the quality and accuracy of testing, such as operation of equipment, performance of test(s), evaluation of results and signing reports. Personnel undergoing training are supervised while performing any of these duties. Personnel performing specific tasks are qualified on the basis of appropriate education, training, experience and/or demonstrated skill. Detailed records provide evidence that personnel performing specific tasks are properly trained and their ability to perform these tasks has been formally evaluated. The laboratory has a documented training program to train an individual in the knowledge, skills and abilities needed to perform the testing and to present evidence in court. The training program includes procedures for retraining and maintenance of skills and expertise.

Ethics and integrity form a core part of training provided to personnel. This training includes ASCLD/LAB "Guiding Principles of Professional Responsibility for Crime Laboratories and Forensic Scientists" which is provided on an initial and annual basis. Personnel are trained in the application for ethical practices in forensic sciences, a general knowledge of forensic science and applicable criminal and civil law and procedures.

2.2.2 Training and personnel requirements are part of the laboratory's annual Management Review. The effectiveness of training is evaluated by proficiency testing and casework performance and on evaluation of the performance of personnel in court.



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- 2.2.3 The laboratory sometimes collaborates with third-party laboratories for technical reviews. A memorandum of understanding is in place between the laboratories involved. The qualifications of these personnel are maintained by the laboratory and meet all applicable requirements of our laboratory training program.
- 2.2.4 Job descriptions for personnel include required education, training, and skills for each laboratory position.
- 2.2.5 Laboratory personnel performing testing, issuing reports, providing opinions and interpretations and operating particular types of equipment are authorized by laboratory management. Management maintains records of authorization, including date, competence, educational and professional qualifications, training, skills and experience of all technical personnel.
- 2.2.6 Laboratory personnel performing testing in the Drug Chemistry discipline of forensic science possess a baccalaureate or advanced degree in a natural science or a closely related field. Laboratory personnel performing testing in the Toxicology - Blood Alcohol discipline of forensic science possess a baccalaureate or advanced degree in a natural science, toxicology or a closely related field. Laboratory personnel performing testing in the Latent Print Analysis and Computer Forensics disciplines possess an associate or higher degree; preferably in a related field. The Digital Evidence Forensic Examiner position is filled by a sworn police officer through specialized assignment.

Prior to assuming responsibility for laboratory casework all analysts, regardless of academic qualifications or past work experience, are required to satisfactorily complete a competency test in each category of testing they will perform.

For personnel who write test reports, the competency testing includes at minimum:

- Examination of unknown samples to cover the anticipated spectrum of assigned duties and evaluate the individual's ability to perform proper testing methods;
- A written test report to demonstrate the individual's ability to properly convey results and/or conclusions and the significance of those results/conclusions;
- A written or oral examination to assess the individual's knowledge of the discipline, category of testing or task being performed.

The laboratory maintains a library of relevant books and other literature dealing with each discipline. Journal articles are maintained electronically.

Related Documents:

General Laboratory Orientation and Training, QP102.2
Employee Review and Development, QP202.2.2
Forensic Alcohol Analysis, Technical Procedures
Forensic Drug Analysis, Technical Procedures
Friction Ridge Examination, Technical Procedures
Digital Evidence Examination, Technical Procedures



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Authorization Form, QF202.2
Forensic Lab Director Job Description
Forensic Chemist Job Description
Police Officer/Digital Evidence Forensic Examiner Job Description
Crime Scene Technician/Latent Print Examiner Job Description
Memorandum of Understanding – External Reviewer, QF202.2.4

2.3 Accommodation and Environmental Conditions

Appropriate space is provided to properly perform the laboratory's operations. Laboratory personnel are provided workspace in the laboratory, and desk and administrative space in an area separate from the laboratory.

Administrative areas are physically separated from the laboratory areas, except in the case of Computer Forensics. Each employee has his/her own cubicle that is separate from laboratory examination areas. Separate work stations are set up within the laboratory for blood alcohol and controlled substances sample preparation to prevent cross-contamination. The testing performed by the laboratory is not adversely affected by environmental or accommodation considerations.

The laboratory is a secured area accessible by key card and is limited to essential laboratory and department personnel. The laboratory is housed within the police department headquarters building which also requires key card access for entry. Laboratory personnel are responsible to adhere to the building security policy of the department and City. The department maintains records of all keys. Security of the laboratory is monitored during vacant hours by the department front desk security officer(s). Evidence areas in the department are secured to prevent theft or interference and have limited, controlled access. A combination/key safe, refrigerator with locking mechanism and other lockable storage are provided as temporary evidence storage for laboratory personnel to use and are located in the secured administrative areas, laboratory areas or secured CSI bay. Limited department personnel have access to the administrative and laboratory areas. Laboratory visitors are escorted at all times.

The laboratory is kept clean and free of clutter, with all laboratory personnel responsible for "good housekeeping." Housekeeping procedures are defined verbally or communicated by email when necessary. The laboratory director or designee coordinates cleaning of the laboratory with the department janitorial staff.

The laboratory has a Chemical Hygiene Plan that acts as the health and safety program for laboratory personnel and select department personnel with access to laboratory areas. The laboratory director acts as the Health and Safety Manager and designates a member of laboratory personnel to act as Chemical Hygiene Officer.

Related Documents: COW Administrative Policy 217 – Building Security Policy
WPD Policy Manual: Directive 3.05 – Police Facility Security
Chemical Hygiene Plan, QD002



2.4 Test Methods and Method Validation

The laboratory offers analytical testing for blood alcohol samples and suspected controlled substances samples and provides examination of friction ridge patterns and digital evidence. The laboratory selects and implements suitable methods which have been proven to be reliable by an objective evaluation process for accurate and precise analyses. Methods used in this laboratory are:

- based on industry accepted methods;
- documented in laboratory generated SOPs;
- scientifically validated;
- meet the needs of the customer; and
- are available to the analyst for ready reference.

The customer generally does not select the method used by the laboratory though exceptions may be required by law or court mandate. The laboratory does not use non-standard methods. Deviations from test methods are not permitted unless they are documented, technically justified, authorized by the Forensic Lab Director, and accepted by the customer.

Analytical methods are validated according to the criteria found in the Method Validation SOP, QP102.4.

Specific written procedures to accomplish tasks, calculations or decisions, for example evidence handling, report review, reagent preparation, but not leading to an analytical result, are located in discipline specific manuals. These controlled procedures address specific needs and any variations from those defined in this Quality System Manual.

The laboratory uses statistically calculated control limits and control charts in combination with calibration certificates to assess uncertainty of measurement, when applicable. How control limits and control charts are calculated and used is described in Control Limits and Control Charts SOP, QP102.4.6. The laboratory determines and reports measurement uncertainty in accordance with the Measurement Traceability and Uncertainty SOP, QP102.4.7. Qualitative tests (identifications) do not require estimates of uncertainty.

Technical reviews are performed of all calculations and data generated and transferred for reporting. The systematic review process is detailed in discipline specific manuals. Computers and other automated equipment for acquiring, processing, recording, reporting, storage or retrieval of test data are password protected to ensure protection of data. Email transmissions of data, calculations and results are identified as protected information in the subject line (e.g. PROTECTED: Criminal Investigation) per exemption status of Criminal Investigation Records under the North Carolina Public Records Act. Software developed by the laboratory, such as Excel spreadsheets used for data manipulation, is validated before use. Records of these validations are maintained.

Related Documents:

North Carolina General Statutes, Chapter 132: Public Records
COW Administrative Policy 405 – Public Records Policy



Method Validation SOP, QP102.4
Control Limits and Control Charts SOP, QP102.4.6

2.5 Equipment

All equipment required for the correct performance of tests is provided by the laboratory and is located at the crime laboratory facility. All equipment and software used for testing are capable of achieving the accuracy required and comply with specifications relevant to the tests.

Calibration procedures, found in discipline specific manuals, detail key quantities or values required to be met where they have a significant effect on the results.

All equipment is calibrated or checked to ensure it meets laboratory specification requirements and complies with relevant standard specification prior to being placed into service. Checks and/or calibrations are performed before use. Only authorized, trained and qualified personnel operate laboratory equipment. Records of user authorizations are maintained.

The laboratory maintains a controlled equipment list that records equipment identity, type, manufacturer, serial numbers, and software versions. Other records retained by the laboratory are:

- Checks that equipment complies with the specification;
- Include the manufacturer's instructions or reference to their location;
- Include the dates, results and copies of reports and calibration certificates;
- Note any adjustments made to equipment;
- Note acceptance criteria;
- Reference due date for the next calibration;
- Identify the maintenance plan (as appropriate) and detail maintenance performed;
- Describe any damage, malfunction, modification or repair.

The laboratory follows manufacturer's recommendations for the safe handling, transport, storage, use and planned maintenance of equipment to ensure proper functioning and to prevent contamination or deterioration. Preventive maintenance and minor repairs are performed by laboratory personnel. The laboratory utilizes manufacturer's service engineers for major repairs or adjustments to equipment. Equipment and its software are password protected to safeguard against unauthorized adjustments.

Any equipment overloaded, mishandled or is suspect for any reason, is promptly removed from service and rendered unavailable for use or clearly identified as defective until it has been repaired. Equipment is recalibrated or checked for accurate performance before being placed back into service. Specifications for accurate performance are detailed in discipline specific manuals.

When equipment is sent outside the direct control of the laboratory, qualified personnel examine the equipment upon return for damage or other issues. Once calibration or proper working order is confirmed, the equipment is placed back into service.



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When performance checks are required between formal calibrations, these checks are performed according to a defined procedure. The analyst implements the guidance for correction, included in each analytical procedure, when results of the checks do not meet pre-defined limits. Failure of these corrective measures to bring the analytical system back into control results in the implementation of the control of nonconforming work procedure.

Related Documents: Controlled Equipment List, QD008
 Controlled Documents List, QD007
 Control of Nonconforming Work SOP, QP101.9

2.6 Measurement Traceability

All equipment used for tests that have a significant effect on the accuracy or validity of the result of the test or sampling are calibrated before being put into service, according to an established system and procedure. Maintenance of equipment used for tests is found in discipline specific manuals. All support equipment is calibrated by ISO 17025 accredited providers and the calibrations are traceable to SI units. The Mettler Toledo analytical balance, the Denver top-loading balance and the Hamilton MicroLab 530B Diluter/Dispenser are calibrated annually. Reference standard weights are calibrated every three years. When external calibration services are required, the laboratory utilizes those organizations that are accredited to ISO 17025 to ensure the competence, measurement capability and traceability of their work. The calibration certificates issued contain the measurement results and include the measurement uncertainty and/or a statement of compliance with an identified metrological specification. The laboratory utilizes ISO 17025 accredited providers for the calibration of its reference standards and a schedule for when reference standards calibrated is maintained by the Quality Manager.

To provide confidence in measurements by establishing traceability to appropriate measurement standards, the laboratory uses specified methods and/or consensus standards that are clearly described and agreed by all parties concerned and participates in a suitable program of inter laboratory comparison. Reference materials used for analytical equipment calibration and performance checks are NIST-traceable. Initial checks of new reference materials and intermediate checks, known as performance checks, of these reference materials are scheduled, documented, uniquely identified and properly controlled. Procedures for these checks are detailed in discipline specific manuals.

Procedures to check calibration of equipment for specific testing are in place and are performed after substantial maintenance or other shutdowns as detailed in discipline specific manuals.

Handling, transport, storage and use of reference standards and reference materials follow manufacturer's instructions and Material Safety Data Sheet (MSDS) instructions.

Related Documents: Measurement Traceability and Uncertainty, QP 102.4.7



2.7 Sampling

The laboratory does not perform field sampling; the laboratory does, however, perform subsampling (aliquoting) of exhibits submitted for analysis. Procedures are specific to and appropriate for each discipline and these are documented in the operations and/or analytical procedures for each discipline. The procedures are available electronically for reference at the location where the subsampling takes place.

Laboratory casework records contain all relevant subsampling information including who performed the sampling.

2.8 Handling of Test Items

The laboratory has strict procedures for the receipt, handling, protection and retention of all test items to protect the integrity of the test items and the interests of the laboratory and its customers. Civilian laboratory personnel do not transport test items outside of the department nor do they store items permanently, with the exception of latent print evidence. The laboratory is not responsible for disposal of items submitted for analysis.

A chain of custody document, Request for Examination form, QF202.8, is maintained for each item of evidence handled by the laboratory and this is retained in the associated hard-copy and electronic case file. All evidence items that are divided into sub-items are tracked with the original item. Evidence submitted to the laboratory is accepted and stored by the department Property and Evidence Unit (P&E) with the exception of friction ridge evidence. The P&E Unit follows the WPD Property and Evidence Policy and checks for proper sealing prior to submission to the laboratory and prior to final long-term storage after laboratory analysis is completed.

The laboratory has a system to uniquely identify test items to prevent items being confused physically and in our records. The identification system accommodates items and sub-items submitted to the laboratory.

When an item is received with any abnormalities or departures from normal conditions it is recorded in the case record. If an item is unsuitable for testing for any reason, laboratory personnel consult with the customer before proceeding and keep records of these discussions.

Our operations are designed to prevent loss, damage or deterioration of test items while under our control. If needed, special and specific handling instructions are assigned to a test item. Evidence, not in the process of examination/analysis but under laboratory control, is maintained in secured, limited access storage. Temporary locked storage in the laboratory ensures that evidence is not left unattended or unsecured while in the process of being examined. Each evidence item is marked with the unique case identifier and item number or sub-item number. Marking an item's proximal container or identifying tag is sufficient for items that do not lend themselves to being marked directly.



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Related Documents: Evidence Control SOP, QP102.8
Request for Examination Form, QF202.8
WPD SOP – Property and Evidence

2.9 Assuring the Quality of Test Results

We have quality control (QC) procedures to monitor the validity of tests undertaken in the laboratory and these are contained in discipline specific manuals. The resulting data from these quality control measures for quantitative test are used to:

- calculate statistical control limits for QC samples; and
- construct control charts so that trends in QC data are identified.

The Quality Manager monitors the results of the QC data through planned reviews. All controls and standards used by the laboratory during testing are recorded or can be traced through an audit trail via each case record.

When quality control data are found to be outside the pre-defined criteria, planned action steps found in discipline specific manuals, are followed. If these steps do not correct the problem, the Quality Manager determines whether the non-conforming work or corrective action process is initiated.

All laboratory personnel that perform testing participate in annual proficiency testing in each discipline of testing they are authorized to analyze. Records of proficiency testing include:

- Test set identifier;
- How many samples were obtained or created;
- Identity of person taking the test;
- Date of analysis and completion;
- Originals or copies of all data and notes supporting conclusions;
- PT results;
- Any discrepancies;
- Indication that performance was reviewed and feedback provided to analyst;
- Details of corrective action taken;

and are retained for at least one full accreditation cycle or five years, whichever is longer.

ASCLD/LAB approved external proficiency test providers and internally developed proficiency samples are used for annual proficiency testing.

Defined procedures for both the technical and administrative reviews of casework are found in discipline specific manuals and are strictly followed prior to final reporting of test results.

Court testimony of all testifying personnel is monitored on an annual basis and according to the defined laboratory procedure. Records of court testimony monitoring are retained through one full accreditation cycle or five years, whichever is longer.



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Related Documents: Control Limits and Control Charts SOP, QP102.4.6
Court Testimony Monitoring SOP, QP102.9
Court Testimony Evaluation Form, QF202.9
Court Testimony Record Form, QF202.9.1

2.10 Reporting the Results

Written reports are prepared for reporting the result of an examination or analysis of evidence. These reports become part of the case record. Results may be reported on a variety of forms depending on the analytical findings. Reporting templates for Blood Alcohol Results and Drug Results are located on the shared network (Z:) drive. Reporting templates for Friction Ridge examination and Digital Evidence Examination are located on the shared network (R:) drive. All reports must include:

- a title
- the name and address of the laboratory
- unique identification of the test report (i.e. LR#)
- the name and address of the customer/requestor
- the method(s) used for testing
- a description of the item(s) tested
- the date of receipt by the laboratory of the test item(s)
- the test results with, where appropriate, the units of measurement
- the name(s), function(s) and signature(s) or equivalent identification of person(s) authorizing the test report
- where relevant, a statement to the effect that the results relate only to the items tested
- if applicable, a statement of the estimated uncertainty of measurement.

Where appropriate and applicable, reports also include:

- opinions and interpretations, clearly marked
- a statement of compliance with legal requirements, general statutes or discipline specific reporting requirements.

The following do not appear in the reports since the information is readily available to a requesting agency or is already documented in the case record:

- deviations from, additions to or exclusions from the test method
- additional information which may be required by specific methods or customers.

When results of testing are reported as inconclusive, the reason(s) are documented in the case record and in the test report. There may occur circumstances when analytical work is performed but no report is produced. The Forensic Lab Director makes the decision not to issue a report on a case-by-case basis and the rationale for the decision is documented in the applicable case notes.

Reports are signed using handwritten signatures, handwritten initials or secured electronic signatures or initials. If initials are used or the signature is not readily legible, it is accompanied by the printed, stamped or typed name of the signer.



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Laboratory personnel who issue findings, including writing test reports and providing testimony, based on examination records generated by another person(s) review all relevant pages of the case record and initial each page that was reviewed to document the review was performed.

If circumstance arises where a completed and reviewed report is distributed but the author is not available to sign it, the supervisor or director signs the author's name to the report and initials next to it. The report is then released for distribution. The author of the report is notified of this action as soon as practicable.

The date on a report reflects the date that the report was prepared, not necessarily when the work was completed. The date the report was notarized reflects the date the report was signed. In no case does the date of the report precede the date on which any of the data or information contained in the report was obtained.

Reports are released only after testing is completed and a technical and administrative review has been completed by authorized personnel. Electronic transmission of test results for reviews or release must follow the guidelines provided by this Quality System Manual and the Wilmington Police Department Policy Manual Chapter 2.15 Dissemination of Information.

When an amendment to a test report is issued, it is clearly marked as an amendment to the original report. If a new report is issued, it is uniquely identified and makes reference to the original report that it replaces.

Related Documents:

WPD Policy Manual Chapter 2.15, page 44 - Dissemination of Information

Laboratory Report Template – Forensic Alcohol Analysis, QD005

Laboratory Report Template – Forensic Drug Analysis, QD006

Laboratory Report Template – Digital Evidence Examination, QD013

Laboratory Report Template – Friction Ridge Examination, QD012

Reporting Results, QP102.10

List of Recipients and Distribution Guidelines, QD010



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Revision Table

Revision #	Effective date	Revised by	Description of Revisions
Original Issue	10/01/2012	B. Pridgen	
#1	10/24/2012	B. Pridgen	Added revision table and authorization. Added absent/on leave text to 1.1.5 j. Clarifying text on H&S Manager assignment/duties in 1.1.7. Removal of duplicate text in 1.2.6.2 – supervision. Changed 1.7 WPCL-1 to QF202.8.
#2	12/17/2014	B. Pridgen	Updated 2.4 to include new UOM policy and procedure. Change of Support Services to Administrative Service.
#3	04/01/2016	B. Pridgen	Change Lab Manager to Lab Director; Change CHO designation and responsibilities; Changes to include Latent Prints and Computer Forensics disciplines throughout



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Authorization

This Standard Operating Procedure, Revision Issue #3, has been approved and authorized by:

Bethany P. Pridgen, MFS
Forensic Lab Director

Date

Ralph M. Evangelous
Chief of Police

Date