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ASCLD/LAB®
INSPECTION REPORT

NORTH CAROLINA STATE BUREAU OF INVESTIGATION
RALEIGH CRIME LABORATORY

Inspected: August 24-29, 2003
Supplemental Inspection Report: December 4, 2003

INTRODUCTION

This is the Inspection Report of the ASCLD/LAB inspection of the North Carolina State Bureau of Investigation Raleigh Crime Laboratory. The initial inspection was performed on August 24-29, 2003 using the principles, standards and criteria established in the 2003 version of the ASCLD/LAB Accreditation Manual and the FBI "Quality Assurance Standards for Forensic DNA Testing Laboratories and Convicted Offender DNA Databasing Laboratories". Staff inspector Mike Johnston conducted a follow-up review of documentation on December 4, 2003.

The **ASCLD/LAB** inspection team consisted of the following members:

Mike Johnston, Staff Inspector, ASCLD/LAB, Austin, TX
John Barbara, Florida Dept. of Law Enforcement, Tampa, FL
Craig Ogino, San Bernardino County Crime Lab, San Bernardino, CA
Robyn Ragsdale, Florida Dept. of Law Enforcement, Tampa, FL
Charles Quenzer, Federal Bureau of Investigation, Quantico, VA
Marie Samples, Office of Chief Medical Examiner, New York, NY
Cary Oien, Federal Bureau of Investigation, Quantico, VA
Steve Meagher, Federal Bureau of Investigation, Quantico, VA
Ingrid Dearmore, Washington State Patrol, Marysville, WA
Tom Darnell, South Carolina Law Enforcement Division, Columbia, SC
Ed Moilanen, Staff Inspector, ASCLD/LAB, Roscommon, MI
Doreen Hudson, Los Angeles Police Department, Los Angeles, CA

LABORATORY OVERVIEW

The North Carolina State Bureau of Investigation Raleigh Crime Laboratory is located at 121 East Tryon Road in Raleigh, North Carolina and is a state laboratory which provides services for the State of North Carolina. Assistant Director Jerry Richardson is director of the Crime Laboratory System. He reports to State Bureau of Investigation Director Robin Pendergraft. The Laboratory provides services in Controlled Substances, Toxicology, Trace Evidence, Biology, Firearms/Toolmarks, Latent Prints, Questioned Documents and Digital Evidence. The laboratory has a staff of 92 testifying analysts and 24 support staff.

The Laboratory also provides Crime Scene services but elected not to apply for accreditation in this discipline.

INSPECTION TEAM FINDINGS

The following document lists each of the ASCLD/LAB Accreditation Standards and Evaluation Criteria from the 2003 Accreditation Manual. Each criterion for which the inspection team determined the laboratory to be in compliance is scored "Yes." Criteria for which the inspection team found the laboratory to not be in total compliance are scored "No." Criteria which are not applicable to the inspection of this laboratory are scored "N/A."

The Summary portion of the report documents the basis for all non-compliance and all non-applicable findings of the Inspection Team.

STANDARDS AND CRITERIA

The laboratory should establish objectives which are relevant to the community that it serves and communicate them to all employees orally and in written form.

		Yes	No	N/A
1.1.1.1 (I)	Does the laboratory have a written statement of its objectives?	✓		
1.1.1.2 (I)	Do the objectives appear to be relevant to the needs of the community serviced by the laboratory?	✓		
1.1.1.3 (D)	Does the laboratory staff understand and support the objectives?	✓		

A laboratory or its parent agency should have a formal written budget which is consistent with the forensic services provided by it.

1.1.2.1 (I)	Does the laboratory or its parent agency have a formal written budget?	✓		
1.1.2.2 (I)	Is the budget adequate to meet the written objectives?	✓		

Clearly written and well understood procedures must exist for handling and preserving the integrity of evidence; laboratory security; preparation, storage, security and disposition of case records and reports; and for maintenance and calibration of equipment and instruments. Clearly written and well understood procedures should also exist for control of materials and supplies; inventory of equipment and instruments; duty hours; leave time; job requirements and descriptions; personnel evaluations and objectives; and for employee grievances.

Do clearly written and well understood procedures exist for the following:

1.1.2.3 (E)	Handling and preserving the integrity of evidence.	✓		
1.1.2.4 (E)	Laboratory security.	✓		
1.1.2.5 (E)	Preparation, storage, security and disposition of case records or reports.	✓		
1.1.2.6 (D)	Control of materials and supplies.	✓		
1.1.2.7 (E)	Calibration of equipment and instruments.	✓		
1.1.2.8 (D)	Inventory of equipment and instruments.	✓		
1.1.2.9 (I)	Duty hours.	✓		
1.1.2.10 (I)	Leave time.	✓		
1.1.2.11 (D)	Job requirements and descriptions.	✓		

		Yes	No	N/A
1.1.2.12 (D)	Personnel evaluations and objectives.	✓		
1.1.2.13 (D)	Employee grievances.	✓		

A laboratory should have a management information system which provides information which assists the laboratory in accomplishing its objectives.

1.1.2.14 (I)	Does the laboratory have and use a management information system?	✓		

The laboratory manager should be able to relate the organizational structure to interacting variables such as those stated in the principle.

1.2.1.1 (D)	Does the organizational structure group the work and personnel in a manner that allows for efficiency of operation, taking into account the interrelation of various forensic disciplines?	✓		
1.2.1.2 (D)	Has the laboratory director considered and taken appropriate action to correct any discrepancies with regard to numbers of personnel when grouping work and resources?	✓		

The laboratory director should have authority commensurate with the assigned responsibilities.

1.2.2.1 (I)	Is the laboratory director's authority well defined?	✓		
1.2.2.2 (I)	Does the laboratory director have authority commensurate with responsibilities?	✓		

Delegation of authority within the laboratory should follow the organizational process outlined in the principle.

1.2.2.3 (I)	Is there sufficient delegation of authority?	✓		
1.2.2.4 (I)	Is authority of supervisors commensurate with their responsibilities?	✓		
1.2.2.5 (I)	Is each subordinate accountable to one and only one immediate supervisor per function?	✓		
1.2.2.6 (I)	Are performance expectations established and are they understood by laboratory personnel?	✓		

Constructive discussion should occur between supervisors and subordinates.

1.3.1.1 (D)	Is there constructive discussion between supervisors and subordinates?	✓		

Supervisors should carefully and objectively review laboratory activities and personnel.

		Yes	No	N/A
1.3.1.2 (I)	Do supervisors carefully and objectively review laboratory activities and personnel?	✓		

Supervisory techniques should encourage creative thinking and objectivity and should recognize meritorious performance of subordinates.

1.3.1.3 (D)	Do the supervisory techniques encourage creative, objective thinking and recognize meritorious performance?	✓		

Channels of communication within the laboratory should exist for coordination of case work and to ensure wide dissemination of technical information. Vertical, horizontal and diagonal channels of communication should exist within and external to the laboratory.

1.3.2.1 (D)	Do clear vertical, horizontal and diagonal channels of communication exist within and external to the laboratory?	✓		

Vertical channels of communication should normally be used for administrative functions.

1.3.2.2 (D)	Are vertical channels of communication used for administrative functions?	✓		

Staff meetings should be conducted on a regular basis.

1.3.2.3 (D)	Are staff meetings held on a regular basis?	✓		

A training program to develop the technical skills of employees is essential in each applicable functional area.

1.3.3.1 (E)	Does the laboratory have and use a documented training program in each functional area for employees who are new, untrained or in need of remedial training?	✓		

A formalized personnel development program is important to prepare employees to assume more responsible jobs.

1.3.3.2 (I)	Does the laboratory have an employee development program?	✓		

The laboratory should maintain an adequate forensic library to include literature published in the applicable functional areas.

1.3.3.3 (I)	Does the forensic library contain current books, journals, and other literature dealing with each functional area?	✓		

A system or procedure should exist to encourage a review of appropriate new literature by personnel.

		Yes	No	N/A
1.3.3.4 (I)	Does a system exist to encourage each examiner to review appropriate new literature?	✓		

A chain of custody record (e.g., signature, date, description of evidence) must be maintained which provides a comprehensive, documented history of each evidence transfer over which the laboratory has control.

1.4.1.1 (E)	Does the laboratory have a written or secure electronic chain of custody record with all necessary data which provides for complete tracking of all evidence?	✓		

Each individual item of evidence must be marked for identification, when practical. If the item does not lend itself to marking, its proximal container or identifying tag must be marked.

1.4.1.2 (E)	Is all evidence marked for identification?	✓		

Evidence seals must be designed and used to protect the integrity of the evidence.

1.4.1.3 (E)	Is evidence stored under proper seal?	✓		

Procedural precautions must exist which reduce the risk of evidence loss, cross transfer, contamination and /or other deleterious change.

1.4.1.4 (E)	Is evidence protected from loss, cross transfer, contamination and/or deleterious change?	✓		

A secure area for overnight and/or long-term storage of evidence must be available.

1.4.1.5 (E)	Is there a secure area for overnight and/or long-term storage of evidence?	✓		

All elements of a laboratory's quality system must be clearly documented in a quality manual which is kept current under the responsibility of a quality manager.

1.4.2.1 (E)	Does the laboratory have a comprehensive quality manual?	✓		

A laboratory must have an individual designated as the Quality Manager.

1.4.2.2 (E)	Is an individual designated as the quality manager?	✓		

To verify that its operations continue to comply with the requirements of its quality system and the standards under which ASCLD/LAB accreditation was granted, each laboratory must conduct an annual audit of its operations and submit an Annual Accreditation Audit Report (Appendix 6) to ASCLD/LAB, by April 1, each year.

		Yes	No	N/A
1.4.2.3 (E)	Did the laboratory conduct and document an annual audit of its operations and submit an annual accreditation audit report to ASCLD/LAB by the required deadline?	✓		

The quality system requires that laboratory management conduct a review at least once yearly to ensure the continued suitability and effectiveness of such a system.

1.4.2.4 (E)	Does the laboratory conduct and document an annual review of its quality system?	✓		

Procedures used must be generally accepted in the field or supported by data gathered and recorded in a scientific manner.

1.4.2.5 (E)	Are the procedures used generally accepted in the field or supported by data gathered and recorded in a scientific manner?	✓		

New technical procedures must be validated to prove their efficacy in examining evidence material before being implemented on casework.

1.4.2.6 (E)	Are new technical procedures scientifically validated before being used in casework and is the validation documentation available for review?	✓		

The laboratory must maintain written copies of appropriate technical procedures.

1.4.2.7 (E)	Are the technical procedures used by the laboratory documented and are the documents available to laboratory personnel for review?	✓		

Controls and standard samples must be used and documented in the case record to ensure the validity of the testing parameters and, thereby, the conclusion.

1.4.2.8 (E)	Are appropriate controls and standards specified in the procedures and are they used and documented in the case record to ensure the validity of examination results?	✓		

The quality of the standard samples and reagents must be adequate for the procedure used.

1.4.2.9 (E)	Is the quality of the standard samples and reagents adequate for the procedure used?	✓		

All reagents must be routinely tested for their reliability.

1.4.2.10 (E)	Does the laboratory routinely check the reliability of its reagents?	✓		

Instruments/equipment should be adequate for the procedures used.

1.4.2.11 (I)	Are the instruments/equipment adequate for the procedures used?	✓		

Instruments/equipment should be maintained in proper working order.

	Yes	No	N/A
1.4.2.12 (I) Are the instruments/equipment in proper working order?	✓		

Instruments/equipment must be properly calibrated and calibration records maintained for all calibrated instruments.

1.4.2.13 (E) Are the instruments/equipment properly calibrated?	✓		

The laboratory must create and maintain a case record for administrative and examination documentation generated or received by the laboratory on each case which it receives. Examination documentation such as notes, worksheets, photographs, spectra, printouts, charts, and other data or records which support conclusions must be generated and kept in the case record.

1.4.2.14 (E) Do the examiners generate and does the laboratory maintain, in a case record, all the notes, worksheets, photographs, spectra, printouts, charts and other data or records used by examiners to support their conclusions?	✓		
1.4.2.15 (E) Does the laboratory maintain case related administrative documentation generated and received, in a retrievable form?	✓		

It is essential that a representative number of reports be subjected to a technical review.

1.4.2.16 (E) Does the laboratory have, use and document a system of technical review of the reports to ensure that the conclusions of its examiners are reasonable and within the constraints of scientific knowledge?	✓		

Administrative reviews must be conducted to ensure the completeness and correctness of the reports issued.

1.4.2.17 (E) Does the laboratory conduct and document administrative reviews of all reports issued?	✓		

The laboratory must have and follow a written procedure whereby the testimony of each examiner is monitored at least once every year.

1.4.2.18 (E) Does the laboratory monitor the testimony of each examiner at least annually and is the examiner given feedback from the evaluation?	✓		

The laboratory must have a written procedure which it uses to initiate a review and to take corrective action when the laboratory has an indication of a significant problem with a technical procedure or the work of an analyst.

		Yes	No	N/A
1.4.2.19 (E)	If the laboratory has an indication of a significant technical problem, is there a procedure in writing and in use whereby the laboratory initiates a review and takes any corrective action required?	✓		

Each laboratory must have a documented program of proficiency testing which measures the capability of its examiners and the reliability of its analytical results.

1.4.3.1 (E)	Does the laboratory have a documented program of proficiency testing?	✓		

The laboratory must participate in proficiency testing programs in which samples are provided by an external test provider. ASCLD/LAB approved providers must be used where available.

1.4.3.2 (E)	Does the laboratory participate in proficiency testing programs conducted by approved test providers or by other external provider(s) when no approved provider is available?	✓		

Each Examiner should be proficiency tested annually in each subdiscipline in which casework is performed.

1.4.3.3 (I)	Was each examiner proficiency tested annually in each subdiscipline in which casework was performed?	✓		

The laboratory should conduct annual proficiency testing in each discipline using re-examination or blind techniques.

1.4.3.4 (I)	Does the laboratory conduct proficiency testing using re-examination or blind techniques?	✓		

MANAGEMENT

The laboratory director should have a minimum of a baccalaureate degree in a natural science, criminalistics or a closely related field. If the director lacks a scientific background, then there should be support within management by personnel with appropriate scientific background.

2.1.1 (I)	Does the laboratory director possess a degree in a natural science, criminalistics or in a closely related field, or is the laboratory director supported by scientific personnel of sufficient managerial rank and authority?	✓		

A laboratory director should have at least five years of forensic science experience performing casework in one of the ASCLD/LAB accredited disciplines.

2.1.2 (D)	Does the laboratory director have at least five years of forensic science experience?	✓		

Additional education in management or business administration by college course work or short training courses (or both) is recommended.

		Yes	No	N/A
2.1.3 (D)	Does the laboratory director have some formal training in management?	✓		

The laboratory director should have at least two years of experience in management.

		Yes	No	N/A
2.1.4 (D)	Does the laboratory director have at least two years of managerial experience?	✓		

CONTROLLED SUBSTANCES

Examiners must have education and experience/training commensurate with the examinations and testimony provided. A baccalaureate degree in a natural science, criminalistics or in a closely related field is required.

		Yes	No	N/A
2.2.1 (E)	Does each examiner possess a baccalaureate degree in a natural science, criminalistics or in a closely related field and does each have experience/training commensurate with the examinations and testimony provided?	✓		

Examiners must have a good understanding of the principles, uses and limitations of the instruments, and the methods and procedures as applied to the tasks performed.

		Yes	No	N/A
2.2.2 (E)	Does each examiner understand the instruments, and the methods and procedures used?	✓		

Examiners must have successfully completed a competency test.

		Yes	No	N/A
2.2.3 (E)	Did each examiner successfully complete a competency test prior to assuming casework responsibility?	✓		

A proficiency test must be successfully completed by each examiner at least annually.

		Yes	No	N/A
2.2.4 (E)	Did each examiner successfully complete an annual proficiency test?	✓		

TOXICOLOGY

Examiners must have education and experience/training commensurate with the examinations and testimony provided. A baccalaureate degree in a natural science, toxicology, criminalistics or in a closely related field is required.

		Yes	No	N/A
2.3.1 (E)	Does each examiner have a baccalaureate degree in a natural science, toxicology, criminalistics or in a closely related field and does each have experience/training commensurate with the examinations and testimony provided?	✓		

Examiners must have a good understanding of the principles, uses and limitations of the instruments, and the methods and procedures applied to the tasks performed.

		Yes	No	N/A
2.3.2 (E)	Does each examiner understand the instruments, and the methods and procedures used?	✓		

Examiners must have successfully completed a competency test.

2.3.3 (E)	Did each examiner successfully complete a competency test prior to assuming casework responsibility?	✓		

A proficiency test must be successfully completed by each examiner at least annually.

2.3.4 (E)	Did each examiner successfully complete an annual proficiency test?	✓		

TRACE EVIDENCE

Examiners must have education and experience/training commensurate with the examinations and testimony provided. A baccalaureate degree in a natural science, criminalistics or in a closely related field is required.

2.4.1 (E)	Does each examiner possess a baccalaureate degree in a natural science, criminalistics or in a closely related field and does each have experience/training commensurate with the examinations and testimony provided?	✓		

Examiners must have a good understanding of the principles, uses and limitations of the instruments, and the methods and procedures applied to the tasks performed.

2.4.2 (E)	Does each examiner understand the instruments, and the methods and procedures used?	✓		

A competency test must be successfully completed prior to working cases of each evidence type.

2.4.3 (E)	Did each examiner successfully complete a competency test in each of the subdisciplines processed prior to assuming casework responsibility?	✓		

A proficiency test must be successfully completed by each examiner at least annually.

2.4.4 (E)	Did each examiner successfully complete an annual proficiency test?	✓		

BIOLOGY

Examiners must have education and experience/training commensurate with the examinations and testimony provided. A baccalaureate degree in a natural science, criminalistics or in a closely related field is required.

		Yes	No	N/A
2.5.1 (E)	Does each examiner possess a baccalaureate degree in a natural science, criminalistics or in a closely related field and does each have experience/training commensurate with the examinations and testimony provided?	✓		
2.5.2 (E)	Does each examiner performing DNA analysis have education, training and experience consistent with those required by the quality assurance audit document?	✓		

Examiners must have a good understanding of the principles, uses and limitations of the instruments, and the methods and procedures applied to the tasks performed.

2.5.3 (E)	Does each examiner understand the instruments, and the methods and procedures used?	✓		

Examiners must have successfully completed a competency test.

2.5.4 (E)	Did each examiner successfully complete a competency test prior to assuming casework responsibility?	✓		

A proficiency test must be successfully completed by each examiner at least annually?

2.5.5 (E)	Did each examiner successfully complete an annual proficiency test?	✓		

Two proficiency tests must be successfully completed by each DNA examiner annually.

2.5.6 (E)	Did each examiner performing DNA analysis successfully complete two annual proficiency tests from an approved test provider?	✓		

FIREARMS/TOOLMARKS

Firearms/toolmarks examiners should have a baccalaureate degree with science courses.

2.6.1 (I)	Does each examiner possess a baccalaureate degree with science courses?	✓		

Examiners must have a good understanding of the principles, uses and limitations of the instruments, and the methods and procedures used as applied to the tasks performed.

2.6.2 (E)	Does each examiner understand the instruments, and the methods and procedures used?	✓		

Examiners must have education and experience/training commensurate with the examinations and testimony provided. Independent case examinations must not be undertaken until extensive instruction from a qualified examiner has been completed.

		Yes	No	N/A
2.6.3 (E)	Did each examiner have extensive training from a qualified examiner and does each have experience commensurate with the examinations and testimony provided?	✓		

Examiners must successfully complete a competency test.

2.6.4 (E)	Did each examiner successfully complete a competency test prior to assuming case work responsibility?	✓		

A proficiency test must be successfully completed by each examiner at least annually.

2.6.5 (E)	Did each examiner successfully complete an annual proficiency test?	✓		

QUESTIONED DOCUMENTS

Questioned document examiners should have a baccalaureate degree with science courses.

2.7.1 (I)	Does each examiner possess a baccalaureate degree with science courses?	✓		

Examiners must have a good understanding of the principles, uses and limitations of the instruments, and the methods and procedures used as applied to the tasks performed.

2.7.2 (E)	Does each examiner understand the instruments, and the methods and procedures used?	✓		

Examiners must have education and training/experience commensurate with the examinations and testimony provided. Independent case examinations must not be undertaken until extensive instruction from a qualified document examiner has been completed.

2.7.3 (E)	Did each examiner have extensive training from a qualified examiner and does each have experience commensurate with the examinations and testimony provided?	✓		

Examiners must have successfully completed a competency test.

2.7.4 (E)	Did each examiner successfully complete a competency test prior to assuming case work responsibility?	✓		

A proficiency test must be successfully completed by each examiner at least annually.

2.7.5 (E)	Did each examiner successfully complete an annual proficiency test?	✓		

LATENT PRINTS

Latent print examiners should have a baccalaureate degree with science courses.

		Yes	No	N/A
2.8.1 (I)	Does each examiner possess a baccalaureate degree with science courses?	___	✓	___

Examiners must have a good understanding of the concept of individualization and the principles, uses and limitations of the instruments, and the methods and procedures used as applied to the tasks performed.

2.8.2 (E)	Does each examiner understand the instruments, and the methods and procedures used?	✓	___	___

Examiners must have education and training/experience commensurate with the examinations and testimony provided. Independent case examinations must not be undertaken until extensive instruction from a qualified latent print examiner has been completed.

2.8.3 (E)	Did each examiner have extensive training from a qualified examiner and does each have experience commensurate with the examinations and testimony provided?	✓	___	___

Examiners must have successfully completed a competency test.

2.8.4 (E)	Did each examiner successfully complete a competency test prior to assuming casework responsibility?	✓	___	___

A proficiency test must be successfully completed by each examiner at least annually.

2.8.5 (E)	Did each examiner successfully complete an annual proficiency test?	✓	___	___

TECHNICAL SUPPORT

The individual must meet the specification of the job description.

2.9.1 (E)	Do technical support personnel meet the requirements of their job descriptions?	✓	___	___

The job description and the duties performed must be in agreement.

2.9.2 (E)	Are the job descriptions and the duties performed in agreement?	✓	___	___

Technical support staff must have successfully completed an appropriate competency test.

2.9.3 (E)	Did each member of the technical support staff successfully complete an appropriate competency test prior to assuming casework responsibility?	✓	___	___

Technical support personnel must successfully complete an appropriate proficiency test annually.

		Yes	No	N/A
2.9.4 (E)	Did all technical support personnel successfully complete an appropriate proficiency test, annually?	✓		

Two proficiency tests must be successfully completed annually by all technical support personnel performing DNA analysis.

2.9.5 (E)	Did all technical support personnel performing DNA analysis successfully complete two annual proficiency tests from an approved test provider?	✓		

CRIME SCENE

The examiner must meet the requirements of the job description.

2.10.1 (E)	Do examiners meet the requirements of their job descriptions?			✓

Examiners must have a good understanding of the concept and theory of scene security and integrity, and the uses and limitations of the equipment, methods and procedures used to document and process crime scenes, as applied to the tasks performed.

2.10.2 (E)	Does each examiner understand the equipment, methods and procedures used?			✓

Examiners must have training and experience commensurate with the examinations, documentation and testimony provided, as applied to the tasks performed. Independent examinations and documentation at crime scenes must not be undertaken until extensive instruction from a qualified examiner has been completed.

2.10.3 (E)	Did each examiner have extensive training from a qualified examiner and does each have experience commensurate with the examinations/documentation and testimony provided?			✓

Examiners must have successfully completed a competency test(s) as applied to the task(s) performed.

2.10.4 (E)	Did each examiner successfully complete a competency test(s) prior to primary responsibility for the examination, documentation and processing of a crime scene?			✓

A proficiency test must be completed by each person conducting crime scene examinations at least annually. The proficiency test should reflect the types of procedures, methods and equipment as applied to the typical task(s) performed.

2.10.5 (E)	Did each examiner successfully complete an annual proficiency test?			✓

DIGITAL EVIDENCE

Digital evidence examiners should have a baccalaureate degree with science courses.

		Yes	No	N/A
2.11.1 (I)	Does each examiner possess a baccalaureate degree with science courses?	✓		

Examiners must have a good understanding of the principles, uses and limitations of the hardware, software, and the methods and procedures as applied to the tasks performed.

2.11.2 (E)	Does each examiner understand the equipment, programs, methods and procedures used?	✓		

Examiners must have education and training/experience commensurate with the examinations and testimony provided. Independent case examinations must not be undertaken until extensive instruction from a qualified examiner has been completed.

2.11.3 (E)	Does each examiner have experience commensurate with the examinations/documentation and testimony provided?	✓		

Examiners must have successfully completed a competency test.

2.11.4 (E)	Did each examiner successfully complete a competency test in each subdiscipline prior to assuming casework responsibility?	✓		

A proficiency test must be successfully completed by each examiner at least annually.

2.11.5 (E)	Did each examiner successfully complete an annual proficiency test?	✓		

Each employee should have adequate work space to accomplish assigned tasks.

3.1.1 (I)	Does each employee have adequate work space to accomplish assigned tasks?	✓		

Sufficient space should be provided for storage of supplies, equipment and tools.

3.1.2 (D)	Is there sufficient space provided for storage of supplies, equipment and tools?	✓		

Examiners should have space available for writing reports and other official communications.

3.1.3 (I)	Is there adequate space available for examiners for writing reports and other official communications?	✓		

Adequate and appropriate space should exist for records and reference materials.

		Yes	No	N/A
3.1.4 (I)	Is there adequate and appropriate space available for records, reference works and other necessary documents?	✓		

Sufficient space should be available for instrumentation/equipment to facilitate its operation.

		Yes	No	N/A
3.1.5 (I)	Is adequate space available for instrumentation/equipment to facilitate its operation?	✓		

Accessories should be stored near instrumentation/equipment to facilitate its use and operation.

		Yes	No	N/A
3.1.6 (D)	Are accessories stored near instrumentation/equipment to facilitate its use and operation?	✓		

The physical design should permit the efficient flow of evidence from the time of its acceptance until its proper disposal.

		Yes	No	N/A
3.2.1 (I)	Does the physical design permit the efficient flow of evidence from the time of its acceptance until its proper disposal?	✓		

The relative locations of functional areas should facilitate the use of equipment and instruments.

		Yes	No	N/A
3.2.2 (D)	Do the relative locations of functional areas facilitate the use of equipment and instruments?	✓		

Adequate and proper lighting should be available for personnel to carry out assigned tasks.

		Yes	No	N/A
3.2.3 (I)	Is there adequate and proper lighting available for personnel to carry out assigned tasks?	✓		

Adequate and proper plumbing and wiring should be available and accessible to carry out assigned tasks.

		Yes	No	N/A
3.2.4 (I)	Is there adequate and proper plumbing and wiring available and accessible to carry out assigned tasks?	✓		

The laboratory should have proper general ventilation.

		Yes	No	N/A
3.2.5 (I)	Does the laboratory have proper general ventilation?	✓		

There should be adequate heating, cooling and humidity control in the laboratory.

		Yes	No	N/A
3.2.6 (I)	Is the heating, cooling and humidity control in the laboratory adequate?	✓		

Access to the operational area of the laboratory must be controllable and limited to those individuals who are assigned to routinely work in the area or to those individuals designated by the laboratory director to have access.

		Yes	No	N/A
3.3.1 (E)	Is access to the operational area of the laboratory controllable and limited?	✓		

All exterior entrance/exit points require adequate security control.

3.3.2 (E)	Do all exterior entrance/exit points have adequate security control?	✓		

Internal areas requiring limited/controlled access must have a lock system.

3.3.3 (E)	Do all internal areas requiring limited/controlled access have a lock system?	✓		

Accountability of all keys, magnetic cards, etc., must be documented and their distribution limited to those individuals designated by the laboratory director to have access.

3.3.4 (E)	Is distribution of all keys, magnetic cards, etc., documented and is distribution limited to those individuals designated by the laboratory director to have access?	✓		

The laboratory must be monitored during vacant hours by an intrusion alarm or by security personnel.

3.3.5 (E)	Is the laboratory secured during vacant hours by means of an intrusion alarm or by security personnel?	✓		

The laboratory should have a fire detection system.

3.3.6 (I)	Does the laboratory have a fire detection system?	✓		

All elements of a laboratory's health and safety program must be clearly documented in a manual. The program should be monitored and the manual kept current by a health and safety manager.

3.4.1 (I)	Does the laboratory have an effective health and safety program documented in a manual?	✓		
3.4.2 (I)	Is an individual designated as the health and safety manager?	✓		
3.4.3 (I)	Is the health and safety program monitored regularly and reviewed annually to ensure that its requirements are being met?	✓		

The laboratory should have available and encourage the use of safety devices (particularly those required in its health and safety manual). Examples of such devices are goggles, face protectors, ear protectors, gloves and fire extinguishers.

		Yes	No	N/A
3.4.4 (I)	Does the laboratory have available and encourage the use of safety devices, particularly those required by its health and safety manual?	✓		

Proper equipment and material should be available for the handling of carcinogenic, toxic and/or other dangerous material spills.

3.4.5 (I)	Does the laboratory have proper equipment and material available for the handling of carcinogenic, toxic and/or other dangerous material spills?	✓		

The laboratory should have safety shower and eye wash equipment in appropriate locations and in good working condition.

3.4.6 (I)	Does the laboratory have safety shower and eye wash equipment in appropriate locations and in good working condition?	✓		

Exhaust hoods must be available to maintain a safe work environment.

3.4.7 (I)	Are sufficient exhaust hoods available to maintain a safe work environment?	✓		

Sufficient first-aid kits should be available and strategically located.

3.4.8 (I)	Are sufficient first-aid kits available and strategically located?	✓		

An adequate number of personnel should hold current certification in first-aid.

3.4.9 (I)	Does the laboratory have an adequate number of personnel holding current certification in first-aid?	✓		

Space should be provided for safe storage of volatile, flammable, explosive and other hazardous materials.

3.4.10 (I)	Is appropriate space provided for safe storage of volatile, flammable, explosive and other hazardous materials?	✓		

Emergency exits from the laboratory should be in compliance with safe working requirements.

3.4.11 (I)	Are the emergency exits from the laboratory adequate for safe exit in an emergency?	✓		

General cleanliness and good-housekeeping should be apparent.

3.4.12 (D)	Is there general cleanliness and apparent good-housekeeping in the laboratory?	✓		

FINDINGS

The following summarizes the criteria for which the Inspection Team determined the laboratory was not in compliance at the time of the inspection and the basis for the finding. The summary also identifies criteria which were determined to be not applicable and the basis for that determination:

1.1.2.7 (E) CALIBRATION OF EQUIPMENT AND INSTRUMENTS.

Original inspection finding:
The calibration procedures for the balances in the Drug Chemistry and Biology sections do not include accuracy tolerance limits.

The Drug Chemistry Section does not have written procedures for the calibration of the Gas Chromatograph portion of the Gas Chromatograph/Mass Spectrometer when the Gas Chromatograph portion is used in the identification of controlled substances.

Supplemental finding:
Accuracy tolerance limits have been added to the calibration procedures in the Drug Chemistry and Biology Sections (See section 8.7 for Biology). Certified weights have been purchased and are available to these sections and other disciplines in the Crime Laboratory.

Written procedures are now included in Drug Chemistry Section procedures manual for the calibration of the gas chromatography portion of the Gas Chromatograph/Mass Spectrometer when the gas chromatography portion is used in the identification of controlled substances.

1.4.1.3 (E) IS EVIDENCE STORED UNDER PROPER SEAL?

Original inspection finding:
Electrostatic Detection Apparatus (ESDA) results are being stored as examination documentation in the Document Section case records.

Supplemental finding:
The procedure for storage of Electrostatic Detection Apparatus (ESDA) has been modified to treat these exhibits as evidence. A new "Positive ESDA Lift" policy has been instituted. The policy requires positive ESDA lifts to be treated as evidence and stored as such in the property room until returned to the submitting agency. A review of a case file requiring ESDA analysis confirmed that the ESDA exhibits are treated as evidence and stored in the property room until it is returned to the submitting agency.

1.4.2.5 (E) ARE THE PROCEDURES USED GENERALLY ACCEPTED IN THE FIELD OR SUPPORTED BY DATA GATHERED AND RECORDED IN A SCIENTIFIC MANNER?

Original inspection finding:
The written procedures in the Drug Chemistry Section are not specific to meet minimum identification requirements for phenalkylamines in regard to mass spectroscopy. If GC/MS is used, the procedure does not specify that a verified gas chromatographic retention time must be used in conjunction with the mass spectrometer results for the identification of phenalkylamines.

A conclusion in one ink examination case in the Questioned Documents Section reported that two ink samples had matching formulas. Case examination documentation revealed only physical examination techniques (fluorescence, luminescence and reflectance) were used to arrive at the conclusion. Questioned Document Section procedures for the analysis of ink include physical examination, chemical examination and thin layer chromatography. The technical procedures do not include minimum standards for reporting conclusions.

Supplemental finding:
The procedures in Drug Chemistry have been modified to meet the minimum identification requirement and specifications for phenalkylamines in regard to mass spectroscopy. Gas chromatograph interpretation is now required when using the mass spectrometer to identify phenylalykamines.

A corrected report has been issued for the ink examination case and a copy of the report was submitted to the inspection team for review. Crime Laboratory Directive 03-05 was issued to suspend all ink analysis in the Questioned Documents section. All future ink comparison requests will be referred to other agencies for analysis.

1.4.2.8 (E) ARE APPROPRIATE CONTROLS AND STANDARDS SPECIFIED IN THE PROCEDURES AND ARE THEY USED AND DOCUMENTED IN THE CASE RECORD TO ENSURE THE VALIDITY OF EXAMINATION RESULTS?

Original inspection finding:
Appropriate controls and standards are being used in the Digital Evidence Section, but are not specified in the Computer Forensics, Audio, or Video procedures, nor is their use being documented in the Computer Forensic case records.

The quantitation procedure in Biology uses a serial dilution to create a set of standards ranging from 10 ng to 0.15 ng, as well as two calibration controls intended to assess the performance of the standards. The technical procedures specify the use of these standards and calibrators but does not address the expected results, acceptable performance of the standards or calibrators, or the interpretation of results (DNA Audit Document standard 9.1, 9.1.2.). The procedure does not specify a minimum number of visible standards (or minimal DNA concentration) as well as data interpretation to ensure uniformity among analysts.

The gas chromatographic portion of the Drug Chemistry gas chromatograph-mass spectrometers is not being checked with controls or standards.

Supplemental finding:
Appropriate controls and standards are now specified in the Computer Forensics, Audio, or Video procedures for the Digital Evidence disciplinee and the use of standards and controls is being documented in the examination documentation.

The technical procedures for the Biology Section have been revised to address the expected results, acceptable performance of the standards or calibrators, and the interpretation of results. The procedures also specify a minimum number of visible standards (or minimal DNA concentration) as well as data interpretation to ensure uniformity among analysts.

The procedures for the gas chromatographic portion of the Drug Chemistry gas chromatograph-mass spectrometers have been revised to include checking with controls or standards. A review of the monthly retention time standard checks confirmed that the procedure is being followed.

1.4.2.9 (E) IS THE QUALITY OF THE STANDARD SAMPLES AND REAGENTS ADEQUATE FOR THE PROCEDURE USED?

Original inspection finding:
No source documentation was available in the Drug Chemistry section for the verification of controlled substance reference standards used for infrared and mass spectral comparisons.

Supplemental finding:
Certified drug standards have been obtained for the Drug Chemistry Section. Invoices were reviewed as the source documentation for the drug standards received. Review of several standard sample confirmation checks confirmed that has been done.

1.4.2.13 (E) ARE THE INSTRUMENTS/EQUIPMENT PROPERLY CALIBRATED?

Original inspection finding:
The Drug Chemistry Quality Assurance Manual (4.A.7, page 4-2) states that electronic balances "will be calibrated or have the calibration certified by the chemists on a monthly basis using standard weights". The weights used for calibration by the chemists have no authenticating certifying documentation.

Supplemental finding:
Certified weights have been purchased and are currently available to the Drug Chemistry Section of the Crime Laboratory. Review of the October and November standard weight certification confirmation checks confirmed that has been done.

1.4.2.14 (E) DO THE EXAMINERS GENERATE AND DOES THE LABORATORY MAINTAIN, IN A CASE RECORD, ALL THE NOTES, WORKSHEETS, PHOTOGRAPHS, SPECTRA, PRINTOUTS, CHARTS AND OTHER DATA OR RECORDS USED BY EXAMINERS TO SUPPORT THEIR CONCLUSIONS?

Original inspection finding:
In the Biology Section, Administrative Order 01-PRO-4 dated April 24, 2001 requires that mandatory steps be followed when case samples are batched. During analyst interviews, it was determined that samples from different cases may be "batched" for extraction, quantitation, and/or amplification. However, there is no documentation in individual case records when samples are batched, making it impossible to compare results obtained between cases should the need for such comparison arise (i.e. for trouble-shooting). (DNA Audit Document standard 11.1, 11.1.1).

Supplemental finding:
Administrative Order 01-PRO-4 dated April 24, 2001 in the Biology Section has been revised and now includes the steps to be followed when case samples are batched. Additional notation areas have been added to the pre-printed case notes to show which cases have been batched. The revised pre-printed forms were submitted for review to reflect that this documentation is currently being used in the individual case records. Review of three "batch sample confirmation" case record reviews confirmed that is now being done.

2.11.1(I) DOES EACH EXAMINER POSSESS A BACCALAUREATE DEGREE WITH SCIENCE COURSES?

Original inspection finding:
Not all examiners possess a baccalaureate degree.

Supplemental finding:
One analyst in the Digital Evidence discipline did not possess a baccalaureate degree during the on-site audit. The analyst has since retired.

3.4.11 (I) ARE THE EMERGENCY EXITS FROM THE LABORATORY ADEQUATE FOR SAFE EXIT IN AN EMERGENCY?

Original inspection finding:
Personal work areas in the Trace Evidence, Drug Chemistry, Biology and Latent Evidence sections are divided by common (shared) instrument/processing rooms. Access to these common rooms is from adjacent work areas. Exit from these rooms is by key only. If an analyst enters these rooms without the key, and the door(s) should happen to close while they are in the room, there is no way to exit or notify another person other than by pounding on the door to attract attention.

Supplemental finding:
Keys have been placed in all personal work areas in the Trace Evidence, Drug Chemistry, Biology, Firearms and Latent Evidence Section which have been divided by common instrumentation/processing areas. A key box or sealed container has been placed in a secure location in each of these areas, and secured with an initialed taped seal. When the key is needed in an emergency situation, the employee using the key must break the seal to obtain the key and is required to notify his/her supervisor as soon as possible. This action will be documented by the supervisor and it will be the responsibility of the supervisor to ensure that the key is returned to the appropriate location and sealed accordingly. Photographs of the key boxes and individual keys for each section were reviewed and substantiated that successful remediation has been accomplished.

The inspection team was not presented with documentation of compliance for the following Important criterion which was scored NO during the initial inspection:

2.8.1 (I) DOES EACH EXAMINER POSSESS A BACCALAUREATE DEGREE WITH SCIENCE COURSES?

Original inspection finding:
Not all examiners possess a baccalaureate degree.

All criteria for 2.10 Crime Scene were scored N/A because the laboratory elected not to apply for Crime Scene accreditation.

SUMMATION OF CRITERIA RATINGS

	Total Possible	Total Yes	Total No	Total N/A	Total Number Yes/No
Essential	78	73	0	5	73
Important	47	46	1	0	47
Desirable	20	20	0	0	20

Percent Essential: 100%

Percent Important: 98%

Percent Desirable: 100%

Areas sought for accreditation are as follows:

Controlled Substances	Firearms/Toolmarks
Toxicology	Latent Prints
Biology	Questioned Documents
Trace Evidence	Digital Evidence

Prepared by: Mike Johnston, Staff Inspector

Ralph M. Keaton
Ralph M. Keaton, Executive Director

12-18-03
Date