



AMERICAN SOCIETY OF CRIME LABORATORY DIRECTORS  
LABORATORY ACCREDITATION BOARD

June 13, 1995

Mr. Shoji Horikoshi  
Criminalistic Laboratory  
850 Bryant Street, Room 435  
San Francisco, California 94103

Dear Mr. Horikoshi,

It is my pleasure to provide to you herein the report entitled "An ASCLD/LAB Review of Quality Assurance Procedures in the San Francisco Police Department Laboratory".

I have reviewed this very well written and thorough report prepared by Doug Lucas and Susan Johns, and concur with their recommendations. It certainly seems to address the concerns you have expressed and provides valuable information and suggestions from two of ASCLD/LAB's most experienced and respected inspectors.

On behalf of the Laboratory Accreditation Board of the American Society of Crime Laboratory Directors, I would like to express our admiration for your initiative and perseverance in seeking out this review and encourage your laboratory's continued preparation for accreditation. By copy of this letter to Mr. Lucas and Ms. Johns, I also extend the gratitude of the Board for their conduct of this study.

Please be advised that no copies of this report will be disseminated or discussed outside of the Board or these inspectors. Best wishes to you and your staff.

Sincerely,

Paul B. Ferrara, Ph.D.  
Chairman, ASCLD/LAB

Enclosure

c: Manuel Valadez  
Susan H. Johns (w/o enclosures)  
Douglas Lucas (w/o enclosures)

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**AN ASCLD/LAB REVIEW OF  
QUALITY ASSURANCE PROCEDURES  
IN  
THE SAN FRANCISCO POLICE DEPARTMENT  
LABORATORY**

**MAY 17, 18 and 19th, 1995**

**SUBMITTED BY  
SUSAN H. JOHNS  
DOUGLAS M. LUCAS**

**JUNE 5, 1995**

## **INTRODUCTION**

As a result of some difficulties experienced in the late summer of 1994, the Director of the San Francisco Police Department Laboratory (SFPD) contacted the Chairman of ASCLD/LAB, Dr. Paul Ferrara, requesting that ASCLD/LAB review revised Quality Assurance procedures that had been put in place to reduce the possibility of a similar occurrence in the future. ASCLD/LAB agreed and Susan H. Johns and Douglas M. Lucas, both qualified ASCLD/LAB Inspectors, were assigned the task. Ms. Johns is R and D Program Administrator in the Bureau of Forensic Sciences of the Illinois State Police in Morton, Illinois and Mr. Lucas is the retired Director of the Centre of Forensic Sciences of the Ministry of the Solicitor General and Correctional Services in Toronto, Ontario.

It was agreed by all the parties that the review would be based on the Standards and Criteria contained in the ASCLD/LAB Accreditation Manual. The review was conducted over a 2 1/2 day period on May 17th, 18th and 19th, 1995. This report of the review is divided into two sections; the first deals with a brief review of the event which prompted SFPD's reassessment of its QA procedures, and of the revised procedures. The second section reports on a more general review of the laboratory and its procedures.

## **REVIEW OF PRE- AND POST EVENT QUALITY SYSTEM**

### **Background**

In August of 1994, a concern was raised about some of the drug analysis work performed by one of the criminalists in SFPD. The concern was that this individual was not performing the confirmatory tests required by the laboratory standard operating procedures. As a result, laboratory management investigated the allegations through blind case submissions and video surveillance. These confirmed the suspicions. The criminalist was suspended by the Department and subsequently resigned.

### **Previous Procedures**

Before this event, the only analyst's notes required in drug cases were notes

documenting any variation from standard operating procedures. No notes were required to document standard tests and results. With few exceptions, none of which were observed by the review team, only color tests, crystal tests and, occasionally, TLC were performed on the vast majority of drug cases. Case reports in drug cases consisted only of notations on the evidence envelopes which were stored in the drug evidence storage room. Once the evidence was sent for destruction, no hard copy of the report and no notes remained in the laboratory. Results were also entered into the municipal computer system which serves, among others, the Police Department and the District Attorney's Office.

With this procedure, there was no possibility for either a technical or administrative review of the case. The only quality assurance procedure was the use of blind case submissions which was done only about once per year. These used actual drugs (as opposed to substances which were not controlled) and none had physical appearances that were misleading. Cases were occasionally reanalyzed for court purposes when the original analyst was not available, but there was no documentation of this separate from the evidence envelope nor was there any supervisory review of the results.

### Newly Implemented Procedures

As a result of the problem that surfaced in August 1994, laboratory management has made the following changes to its standard operating procedures:

1. The frequency of blind case submissions has increased to approximately six per year and the samples include some non-drug and less obvious samples.
2. Drugs analysts are now required to complete a form which documents the tests performed and the results obtained (eg. +ve or -ve). No weights are recorded on this form (weight is still recorded on the evidence envelope). The form is reviewed and filed by a supervisor. It is not compared with the report on the evidence envelope or with the information entered into the computer.
3. Documentation of case reanalysis is now required. A form is completed by the second analyst and reviewed by a supervisor.
4. The manual with standard operating procedures has been updated and substantially expanded.

## Evaluation of Revised System

No monitoring system can guarantee that falsification of data or records by a criminalist will be prevented or detected. However, there are certain procedures, supported by ASCLD/LAB, which will make such problems less likely to remain undetected. These are incorporated into the Standards and Criteria of the ASCLD/LAB Accreditation Manual. Specific recommendations for SFPD include:

1. Using generally accepted procedures for the analysis of drug evidence (as well as all other types of evidence),
2. Maintaining all relevant case data in a case file,
3. Reviewing reports, and
4. Carefully and objectively supervising all laboratory activities .

Each of these is discussed in more detail below.

1. Using generally accepted procedures for the analysis of drug evidence. A previous policy decision of ASCLD/LAB requires that all drug identifications, with the exception of marijuana, be supported by an instrumental technique (eg. IR or MS) documenting the structure of the drug. Such techniques also provide:

- a. Documentation which can be technically reviewed by another qualified analyst.
- b. An auditable trail,
- c. Enhanced laboratory safety since instrumental procedures do not require the use of hazardous materials. This is important in a laboratory such as SFPD which has facility problems (described below), and
- d. The potential for automation thus facilitating more efficient operations.

Although, when used by properly trained and experienced examiners, crystal tests may provide a valid method for confirmation of a drug identification, ASCLD/LAB, and the forensic science community in general, no longer accept crystal tests without instrumental confirmation as a basis for the identification of drugs.

2. Maintaining all relevant case data in a case file. Neither the previous nor the current system meets this requirement. A system requiring creation and maintenance of case files should be

implemented for all drug cases analyzed. The files should contain documentation of the chain of evidence, analyst's notes, all instrumental records generated in the analysis, and a copy of the report. These files should be maintained in the laboratory.

**3. Reviewing reports.** The previous system did not permit any form of case review. The current system does not permit a determination that the conclusions reached by the analyst are reasonable and within the constraints of scientific knowledge. Creating and maintaining case files which include analyst's notes, instrumental data, and reports will permit both administrative and technical reviews to be conducted. ASCLD/LAB has determined that review of reports is an essential component of a valid quality system.

**4. Carefully and objectively supervising laboratory activities.** Under the previous system, there was no review of laboratory activities in the area of drug analyses. The current system also does not address this issue. The absence of adequate documentation prevents this from being accomplished.

## Forensic Serology

The criminalist who was the subject of this investigation also performed serological examinations. There was no suggestion that there were any problems with the work in this area, however, a cursory review of current activities in the serology unit was conducted by the review team. The procedures used appear to be satisfactory.

## GENERAL REVIEW OF SFPD LABORATORY

### Introduction

The management of the SFPD Laboratory is considering applying to ASCLD/LAB for accreditation and requested a general review of the laboratory based on the ASCLD/LAB Standards and Criteria. It must be emphasized that, in the time available to the review team, a complete inspection was not possible; however, a number of observations were made as described below. Criteria not evaluated are marked NE on the attached Grade Computation Sheets;

criteria which do not apply to SFPD are marked NA. Recommendations to assist the laboratory management in preparation for an accreditation inspection are included in this report.

### Laboratory Overview

This laboratory is one of three components of the Criminalistics Division of the San Francisco Police Department; the other two components are Crime Scene Investigation and the Photography Laboratory. The Division is headed by Shoji Horikoshi whose official title is Criminologist. He reports to the Captain of Investigations who in turn reports to the Deputy Chief in charge of the Investigations Bureau.

The laboratory serves a population of approximately 750,000 in the City and County of San Francisco. Services provided include: controlled substances, firearms/toolmarks, serology, trace evidence, arson, and questioned documents. Latent print services are provided by Crime Scene Investigations. Blood alcohol analysis and toxicology are provided by the Coroner/Medical Examiner's laboratory which is located in the same building. ~~The Laboratory occupies~~ **approximately 5,200 square feet on the fourth floor of the Hall of Justice Building.** In addition to the Police Department Headquarters and the Coroner/Medical Examiner facility, the building also houses the Municipal and Superior Courts, District Attorney's Office, Probation Office, and a lockup facility. The building was opened in about 1960 and there has been little upgrade of it since.

In addition to the Criminologist, the laboratory staff consists of two senior criminalists and eight criminalists, one document examiner, two police officer/evidence custodians and one clerk/typist. All criminalists are expected to be qualified in drug analysis. Three also specialize in serology and the others have multiple areas of specialty in addition to drug analysis. There has been no increase in staff in the laboratory since 1979.

The SFPD laboratory reports about 9,000 drug cases and about 800 other cases per year.

## Observations and Recommendations

### LABORATORY MANAGEMENT AND OPERATIONS

Of the criteria examined in this section, the following were marked "No". The NE and NA criteria are not discussed in this report.

#### 1.1.1.3 (D), (N) Does the laboratory staff understand and support the objectives?

Not all laboratory staff are aware of the written statement of objectives.

#### 1.1.2.1 (I), (N) Does the laboratory have a formal written budget?

An annual submission is made for funding by the Criminologist, however, no subsequent notification is provided to him of his funding levels. Control of the budget is maintained elsewhere in the Department. There are no expenditure reports provided to the Criminologist.

#### 1.1.2.2 (I), (N) Is the written budget adequate to meet the written objectives?

There is no written budget for the laboratory nor does the funding level appear to be sufficient to meet the requirements for staff and equipment.

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

#### 1.1.2.3 (E), (N) Handling and preserving the integrity of evidence?

There is a procedure for evidence handling and preserving, however, it does not clearly specify the need for proper seals (eg. not staples) as specified in the Accreditation Manual at page 25.

#### 1.1.2.4 (E), (N) Laboratory security?

The standard operating procedures for laboratory security are insufficiently documented in only three lines in the laboratory manual.

**1.1.2.7 (D), (N) Maintenance and calibration of equipment and instruments?**

The written procedures are neither complete nor well understood.

**1.1.2.11 (D), (N) Job requirements and descriptions?**

The job descriptions for the senior criminalist positions do not clearly reflect their work assignments. In particular, the job description for the senior criminalist who is designated as the Laboratory Manager needs to be rewritten and promulgated. The responsibilities of this position are currently neither well written nor clearly understood by staff.

**1.1.2.12 (D), (N) Job requirements and descriptions? *Personnel evaluation***

There are no goals or objectives included in the personnel evaluation process. Employees should have specific goals and objectives established with them prior to their evaluations.

**1.1.2.14 (I), (N) Does the laboratory have a management information system?**

Although some information is collected, there is no workable, comprehensive system as outlined in the Accreditation Manual at page 22.

**1.2.1.1 (D), (N) 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?**

The organizational structure appears to have failed to keep pace with changes required by the increasingly technical nature of the analyses performed. The reality is that the laboratory is in transition from a "generalist" to a "specialist" type of operation but the organizational structure does not reflect this.

**1.2.1.2 (D), (N) Has the laboratory director considered and taken appropriate action to correct any discrepancies with regard to numbers of personnel when grouping work and resources?**

There are at least three functions performed in the laboratory which should be reconsidered based on existing staffing levels; drug analysis within a very short time frame (six hours) seven days a

week, the use of the laboratory as the Department's drug depository, and the use of laboratory personnel for test firing weapons. The "six hour" requirement results in staff working alone on weekends which presents a potential safety and security problem (as exemplified by the event which prompted this review). Being the drug depository for the Department results in excess traffic through the drug storage room with resultant concerns about security. It also overloads the already inadequate space available for storage. Test firing of weapons solely to establish function places an unnecessary burden on a busy staff and could easily be performed by police personnel.

**1.2.2.2 (I), (N) Does the laboratory director have authority commensurate with responsibilities?**

The laboratory director does not have control of his budget.

**1.2.2.4 (I), (N) Is authority of supervisors commensurate with their responsibilities?**

The lines of authority are not clearly established for the two senior criminalists. In certain areas, staff appear to operate virtually autonomously. This is a matter which requires urgent attention by laboratory management.

**1.2.2.5 (I), (N) Is each subordinate accountable to one and only one immediate supervisor per function?**

Several staff members reported that they considered themselves accountable to more than one supervisor.

**1.2.2.6 (I), (N) Are performance expectations established and are they understood by laboratory personnel?**

Performance expectations are not established for personnel.

**1.3.1.1 (D), (N) Is there constructive discussion between supervisors and subordinates?**

While discussions do occur, staff express concern that issues often remain unresolved or, when resolved, the communication of the resolution is often only by memo.

**1.3.1.2 (I), (N) Do supervisors carefully and objectively review laboratory activities, methods, and personnel?**

The DNA program is not progressing and needs an organized plan to accomplish the implementation of DNA techniques. It is recognized that implementation has been hampered by the loss of a lead worker in the unit, but the lack of progress is not entirely attributable to that loss. It is unlikely that DNA will ever be brought "on line" until supervisors and staff develop a plan for validation and training.

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

The staff of the serology/DNA unit are anxious to develop a plan for implementation but lack the supervisory assistance they need to accomplish it.

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

Many staff appeared to be unaware of management's decision to request this review by ASCLD/LAB and to begin preparation for accreditation. Most were pleased to learn from the review team about the team's reason for being in the laboratory.

**1.4.1.3 (E),(N) Is evidence stored under proper seal?**

Stapled bags without any seal were allowed in the laboratory. All evidence in the laboratory should have a proper seal as described in the Accreditation Manual at page 25.

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

Bloodstained evidence being dried should be protected against cross-contamination. Use of paper wrapped around evidence hanging to dry would be a simple solution to this problem. Care should also be taking to avoid having such evidence items touch.

The plan for use of laboratory space for PCR analysis may not meet TWGDAM guidelines which require separation of extractions, evidence examination, amplified product and set up areas. The

separations are recommended to ensure that PCR samples will not be contaminated. While these guidelines permit separation in time or space, separation in time will adversely affect the efficiency of other operations in the common space.

**1.4.2.1 (I), (N) Does the laboratory have a quality manual?**

There is no quality manual such as described in the Accreditation Manual at page 26..

**1.4.2.1 (I), (N) Is an individual designated as the Quality Manager?**

No one has been formally designated as the Quality Manager.

**1.4.2.3 (I), (N) Are audits conducted at least annually?**

Audits are not conducted.

**1.4.2.4 (I), (N) Does the laboratory conduct an annual review of its quality system?**

There is no system to review.

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

Although when used by properly trained and experienced examiners, crystal tests may be a valid method for confirmation of drugs, ASCLD/LAB no longer accepts crystal tests without instrumental confirmation as a basis for the identification of drugs. The laboratory standard operating procedures should be changed to reflect this. Some drug procedures described in the laboratory procedures manual are not used or understood by the laboratory staff and should be deleted until they can be implemented. The laboratory should also review its current microscopic procedure for the identification of marijuana to ensure that it represents current generally accepted practice.

The procedures manual has been recently revised and the procedures described for areas other than drug analysis appear to be those generally accepted in the field. The review team did not have sufficient time to fully evaluate their use in all the laboratory units.

**1.4.2.11 (I), (N) Are the instruments/equipment adequate for the procedures used?**

The written procedures for drug analysis include procedures requiring IR or MS. (Note: these procedures should be reviewed for accuracy.) There is no functioning IR in the laboratory. A shared GC/MS system is located in the Coroner/Medical Examiner's laboratory and is not used nor understood by some laboratory personnel. Additionally, since different columns are needed depending on the types of analysis being performed, it is not realistic to expect the drug analysts to be able to use an instrument which is not set up for their type of analysis. An instrument dedicated to the laboratory is needed.

There is no in-house instrumental capability for inorganic analyses.

**1.4.1.12 (I), (N) Are the instruments/equipment in proper working order?**

Several instruments (e.g. the FTIR) are not maintained and can no longer be used.

**1.4.2.13 (E), (N) Are the instruments/equipment properly calibrated?**

While calibration of all equipment was not examined by the review team, at least one piece of equipment, the refractive index equipment, has not had its calibration checked for several years. Much greater attention needs to be paid to calibration and maintenance schedules.

**1.4.2.14 (E), (N) 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 the examiners to support their conclusions?**

No case records exist for drug cases although they do for other types of cases. The requirements for what documentation must be contained in the case records were not clearly understood by the staff and should be better delineated for them. Greater emphasis should be placed on uniformity of note taking in order to facilitate the case review process. Additional information on this criterion is contained in the Accreditation Manual at pages 30 and 31. Standard worksheets should be considered for use, particularly in firearms cases.

**1.4.2.16 (D), (N) Do the examiners in serology/DNA have access to and generate local population databases on the distribution of all genetic markers which are typed in the laboratory?**

No local databases are generated or used.

**1.4.2.17 (E), (N) Does the laboratory review the reports to ensure that the conclusions of its examiners are reasonable and within the constraints of scientific knowledge?**

There is no technical review process for the document examiner's reports. Arrangements should be made with another laboratory for such review to be made on a specified basis.

In drug analysis cases, the previous system did not permit any form of case review. The current system does not permit a determination that the conclusions reached by the analysts are reasonable and within the constraints of scientific knowledge. Creating and maintaining case files which include analyst's notes, instrumental data, and reports will permit this type of review to be conducted. ASCLD/LAB has determined that review of reports is an essential component of a valid quality system.

Inconsistencies were noted in the wording of marijuana reports and in the criminalists' understanding of the legal definition in California of marijuana. Supervisors should ensure a proper understanding of the definition and that the wording of reports reflects it.

**1.4.2.18 (E), (N) Does the laboratory conduct administrative reviews of the reports issued?**

See 1.4.2.17 for comments with respect to drug analysis. Sufficient minor discrepancies in reports were noted by the review team to call into question the thoroughness of the reviews conducted.

**1.4.2.20 (E), (N) If the laboratory has an indication of a significant technical problem, is there a procedure in writing whereby the laboratory initiates a review and takes any corrective action required?**

The procedure in the laboratory manual is not sufficiently detailed.

**1.4.3.1 (E), (N) Does the laboratory have a documented program of proficiency testing?**

Not all analysts have completed proficiency tests in the last year in all areas in which they are writing reports.

**1.4.3.2 (E), (N) Does the laboratory participate in proficiency testing programs conducted by approved test providers?**

The laboratory participates in the CTS testing program, however not all analysts have been tested sufficiently to meet this criterion.

**1.4.3.4 (I), (N) Does the laboratory conduct inter- or intralaboratory proficiency testing using the blind, reexamination, or known standards techniques?**

An enhanced program has been established for drug analysis. A case reexamination program is recommended for the other units as well.

In addition to the above, the review team has the following comments on some of the criteria that were marked "Yes".

**1.3.3.1 (I), (Y) Does the laboratory have and use a training program in each functional area?**

Most of the staff have been in the laboratory for many years. While there are no records of their training, they appear to be well trained. A written training program has been developed recently. Two criminalists have completed drug analysis training according to this program and records exist for them. Greater attention should be paid, however, to thoroughly documenting each person's training.

**1.4.1.1 (E), (Y) Does the laboratory have a chain of custody record with all necessary data?**

Although a chain of custody record does exist for cases other than drugs, and for drug cases while

the drugs are still in the laboratory, once the drugs leave the laboratory there is no record remaining since it is on the evidence envelope. The creation of a proper case record should correct this situation. For other cases, the chain of evidence record would benefit from greater uniformity of the recording procedures.

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

The drug evidence storage area is used by the Department as a drug depository, a function not normally assigned to a forensic science laboratory. This results in too much evidence in the drug storage room which requires frequent access by all laboratory staff, making it a potential security problem.

The walk-in freezer in the impound room requires immediate attention to control of its contents. This freezer is used by crime scene personnel as well as laboratory staff. As a result, it is very crowded and appears **disorganized**. Staff report difficulty in locating specific items of evidence stored in this freezer.

**PERSONNEL QUALIFICATIONS**

All staff meet the ASCLD/LAB educational requirements and most have been in forensic science for many years, either in this laboratory or others. All of the criteria in this section that were reviewed were met except as noted below.

**2.2.2 (E), (N) Does each examiner (Controlled Substances) understand the instruments and procedures used?**

As discussed above, appropriate instrumental techniques are not used or understood by drug analysts even though some are included in the procedures manual.

**2.4.2 (E), (N) Does each examiner (Trace Evidence) understand the instruments, and the methods and procedures used?**

One criminalist could not clearly explain the procedure used for the measurement of refractive index of glass.

## PHYSICAL PLANT

### Space and Design

In a report prepared in 1994, the City Architect's Office described the SFPD facility thusly: "Due to the age of the Laboratory (33 years) and the lack of basic maintenance, the facility suffers from dilapidated work benches, outdated safety equipment, inadequate lighting and poorly laid out work areas." The review team agrees totally with this statement and will, therefore, not comment on all space/facility criteria. Suffice it to say that all 3.1 and 3.2 criteria examined were marked "No". A few specific comments are made below.

#### **3.1.3 (I), (N) Is there adequate and appropriate space available for records, reference works and other necessary documents?**

Drug examiners enter their results into a computer which is located immediately inside the main entrance to the laboratory. They are at constant risk of being struck by the door each time it is opened.

#### **3.2.1 (I), (N) Does the physical design permit the efficient flow of evidence from the time of its acceptance until its proper disposal?**

Most of the non-drug evidence has to be moved by laboratory personnel between the laboratory and the property room, located in the basement five floors below. The firing room and some of the document examiner's equipment are also located in the basement.

#### **3.2.5 (I), (N) Does the laboratory have proper general ventilation?**

The firing room does not appear to have adequate ventilation.

Special air flow requirements may need to be implemented for PCR analysis. The amplification room for PCR analysis should have negative pressure and the return air should not be recirculated to the laboratory.

## Security

Three of the six criteria in this section were not met.

### **3.3.2 (E), (N) Do all exterior entrance/exit points have adequate security control?**

In 1994, the laboratory had a review of its security measures made by the SFPD Crime Prevention Unit. Recommendations were made to upgrade security by installing enhanced door locking and proximity alarm systems. The review team agrees with these recommendations.

### **3.3.5 (I), (N) Is the laboratory secured during vacant hours by means of an intrusion alarm or by security personnel?**

There is no intrusion alarm system; the contact switches that existed on the doors at one time have been disconnected. Although the laboratory is located on the fourth floor of police headquarters, the review team was advised that there have been problems with "homeless" people sleeping in the corridors on this floor.

### **3.3.6 (I), (N) Does the laboratory have a fire detection system?**

There are two smoke detectors in the laboratory however they are not wired to a central control area and would be ineffective after hours.

## Health and Safety

Seven of the twelve criteria in this section were not met. This is a subject which has obviously not received adequate attention and will require dedication by all staff to enhance health and safety in the laboratory.

### **3.4.3 (I), (N) Is the health and safety program monitored regularly and reviewed annually to ensure that its requirements are being met?**

There were too many violations observed in the use and storage of chemicals to allow the team to conclude that the program is being monitored properly. Although a separate table is provided for eating lunch, it is in a laboratory and therefor should not be considered as a proper lunch facility.

**3.4.4 (I), (N) Does the laboratory have available and encourage the use of safety devices, particularly those required by its health and safety manual?**

Although lab coats are provided, staff are required to take them home for laundering. This is not generally considered to be consistent with good health and safety practice. Not all fire extinguishers had been checked within the last year as required.

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

Dangerous materials are handled outside of the hood in both the serology and drug units.

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

There are insufficient hoods available in the laboratory. The HEPA hood is being used for a phenol/chloroform extraction for PCR. Urgent attention should be given to installing another hood for use by the DNA unit for extractions.

**3.4.9 (I), (N) Does the laboratory have an adequate number of personnel trained in first-aid procedures?**

There is only one person trained.

**3.4.10 (I), (N) Is appropriate space provided for safe storage of volatile, flammable and explosive materials?**

Many chemicals are insufficiently marked and are not stored according to any recognized system. Ventilation in the flammables storage area is inadequate.

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

Numerous areas were observed which had obviously not been cleaned for a long time. There is a great need for a concerted effort to dispose of surplus and unused equipment, supplies and chemicals and to substantially enhance general housekeeping

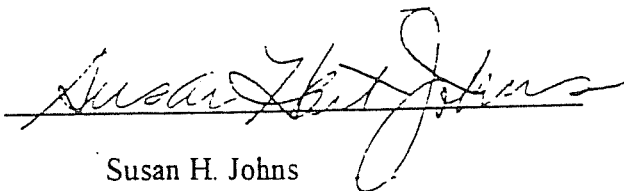
## CONCLUSION

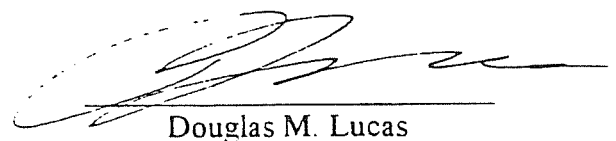
### Summary of Criteria

	Total Possible	Total Yes	Total No	% Yes
Essential	39	20	19	51.3
Important	41	11	30	26.8
Desirable	22	9	13	40.9

Although not required for this review, the above summary has been provided to give the SFPD management an idea of the extent of the work to be done. The number of criteria marked "No" is very high however it must be realized that the management and staff of the SFPD Laboratory have only recently begun their preparation for accreditation. Many of the "No"s are related and attention to one will result in attention to others. While the new laboratory manual dated April 15th, 1995 represents a good start, there is much to be accomplished. This is highlighted by the many comments and recommendations above. We recommend strongly that laboratory management establish a target date for application and place someone in charge of coordinating preparations. The staff appear to be strongly motivated and have the experience in forensic science to accomplish most of the requirements. A major problem will be with the physical facility which probably will require some enhancements in order to meet the accreditation requirements.

The review team appreciates the courtesy with which we were received by Mr. Horikoshi and his staff and wish them well in their endeavours.

  
Susan H. Johns

  
Douglas M. Lucas



CRITERIA

ESSENTIAL  
Y N N/A

IMPORT FT  
Y N N/A

DESIRABLE  
Y N N/A

1.2.2.4 (I)

\_\_\_ ✓ \_\_\_

1.2.2.5 (I)

\_\_\_ ✓ \_\_\_

1.2.2.6 (I)

\_\_\_ ✓ \_\_\_

1.3.1.1 (D)

\_\_\_ ✓ \_\_\_

1.3.1.2 (I)

\_\_\_ ✓ \_\_\_

1.3.1.3 (D)

\_\_\_ ✓ \_\_\_

1.3.2.1 (D)

\_\_\_ ✓ \_\_\_

1.3.2.2 (D)

\_\_\_ ✓ \_\_\_

1.3.2.3 (D)

\_\_\_ ✓ \_\_\_

1.3.3.1 (I)

\_\_\_ ✓ \_\_\_

1.3.3.2 (I)

\_\_\_ ✓ \_\_\_

1.3.3.3 (I)

\_\_\_ \_\_\_ N.E

1.3.3.4 (I)

\_\_\_ \_\_\_ N.E

1.4.1.1 (E)

\_\_\_ ✓ \_\_\_

1.4.1.2 (E)

\_\_\_ ✓ \_\_\_

1.4.1.3 (E)

\_\_\_ ✓ \_\_\_

1.4.1.4 (E)

\_\_\_ ✓ \_\_\_

1.4.1.5 (E)

\_\_\_ ✓ \_\_\_

1.4.2.1 (I)

\_\_\_ ✓ \_\_\_

1.4.2.2 (I)

\_\_\_ ✓ \_\_\_

1.4.2.3 (I)

\_\_\_ ✓ \_\_\_

1.4.2.4 (I)

\_\_\_ ✓ \_\_\_

1.4.2.5 (E)

\_\_\_ ✓ \_\_\_

E/I/D = 6/12/5

TOTALS

~~6~~ ~~12~~ ~~5~~ 2 8 2 2 3

LABORATORY

San Francisco P.D.

ESSENTIAL

IMPORTANT

DESIRABLE

CRITERIA	ESSENTIAL			IMPORTANT			DESIRABLE		
	Y	N	N/A	Y	N	N/A	Y	N	N/A
1.4.2.6 (E)	___	✓	<del>___</del>	___	___	___	___	___	___
1.4.2.7 (E)	___	✓	___	___	___	___	___	___	___
1.4.2.8 (E)	✓	___	___	___	___	___	___	___	___
1.4.2.9 (E)	___	✓	___	___	___	___	___	___	___
1.4.2.10 (E)	___	✓	___	___	___	___	___	___	___
1.4.2.11 (I)	___	___	___	___	✓	___	___	___	___
1.4.2.12 (I)	___	___	___	___	✓	___	___	___	___
1.4.2.13 (E)	___	✓	___	___	___	___	___	___	___
1.4.2.14 (E)	___	✓	___	___	___	___	___	___	___
1.4.2.15 (D)	___	___	___	___	___	___	✓	<del>___</del>	___
1.4.2.16 (D)	___	___	___	___	___	___	___	✓	___
1.4.2.17 (E)	___	✓	___	___	___	___	___	___	___
1.4.2.18 (E)	___	✓	___	___	___	___	___	___	___
1.4.2.19 (E)	✓	___	___	___	___	___	___	___	___
1.4.2.20 (E)	___	✓	___	___	___	___	___	___	___
1.4.3.1 (E)	___	✓	___	___	___	___	___	___	___
1.4.3.2 (E)	___	✓	___	___	___	___	___	___	___
1.4.3.3 (E)	___	___	✓	___	___	___	___	___	___
1.4.3.4 (I)	___	___	___	___	✓	___	___	___	___
2.1.1 (I)	___	___	___	✓	___	___	___	___	___
2.1.2 (D)	___	___	___	___	___	___	✓	___	___
2.1.3 (D)	___	___	___	___	___	___	___	___	N-E
2.1.4 (D)	___	___	___	___	___	___	✓	___	___
2.2.1 (E)	✓	___	___	___	___	___	___	___	___

E/I/D = 15/4/5

TOTALS

3 11 4 4 3 3 1 1

LABORATORY San Francisco P.D.

CRITERIA	ESSENTIAL			IMPORT			DESIRABLE		
	Y	N	N/A	Y	N	N/A	Y	N	N/A
2.2.2 (E)	___	✓	___	___	___	___	___	___	___
2.2.3 (E)	✓	___	___	___	___	___	___	___	___
2.3.1 (E)	___	___	✓	___	___	___	___	___	___
2.3.2 (E)	___	___	✓	___	___	___	___	___	___
2.3.3 (E)	___	___	✓	___	___	___	___	___	___
2.4.1 (E)	✓	___	___	___	___	___	___	___	___
2.4.2 (E)	___	✓	___	___	___	___	___	___	___
2.4.3 (E)	<del>___</del>	___	N.E.	___	___	___	___	___	___
2.5.1 (E)	✓	___	___	___	___	___	___	___	___
2.5.2 (E)	✓	___	___	___	___	___	___	___	___
2.5.3 (E)	✓	___	___	___	___	___	___	___	___
2.6.1 (E)	___	___	✓	___	___	___	___	___	___
2.6.2 (E)	___	___	✓	___	___	___	___	___	___
2.6.3 (E)	___	___	✓	___	___	___	___	___	___
2.7.1 (D)	<del>___</del>	___	___	___	___	___	✓	___	___
2.7.2 (E)	✓	___	___	___	___	___	___	___	___
2.7.3 (E)	✓	___	___	___	___	___	___	___	___
2.7.4 (E)	✓	___	___	___	___	___	___	___	___
2.8.1 (D)	<del>___</del>	___	___	___	___	___	✓	___	___
2.8.2 (E)	✓	___	___	___	___	___	___	___	___
2.8.3 (E)	✓	___	___	___	___	___	___	___	___
2.8.4 (E)	✓	___	___	___	___	___	___	___	___
2.9.1 (D)	___	___	___	___	___	___	___	___	N.E.

E/I/D = 20/0/3

TOTALS 11 2 7 \_\_\_ \_\_\_ \_\_\_ 2 \_\_\_ 1

LABORATORY San Francisco P.D.

CRITERIA	ESSENTIAL			IMPORT I			DESIRABLE		
	Y	N	N/A	Y	N	N/A	Y	N	N/A
2.9.2 (E)	___	___	<u>N.E.</u>						
2.9.3 (E)	___	___	<u>N.E.</u>						
2.9.4 (E)	___	___	<u>N.E.</u>						
2.10.1 (E)	___	___	✓						
2.10.2 (E)	___	___	✓						
2.10.3 (E)	___	___	✓						
3.1.1 (I)				___	✓	___			
3.1.2 (D)							___	✓	___
3.1.3 (I)				___	✓	___			
3.1.4 (I)				___	✓	___			
3.1.5 (I)				___	✓	___			
3.1.6 (D)							___	___	<u>N.E.</u>
3.2.1 (I)				___	✓	___			
3.2.2 (D)							___	✓	___
3.2.3 (I)				___	✓	___			
3.2.4 (I)				___	___	<u>N.E.</u>			
3.2.5 (I)				___	✓	___			
3.2.6 (I)				___	___	<u>N.E.</u>			
3.3.1 (E)	✓	___	___						
3.3.2 (E)	___	✓	___						
3.3.3 (E)	✓	___	___						
3.3.4 (E)	✓	___	___						
3.3.5 (I)				___	✓	___			

E/I/D = 10/10/3

TOTALS                    3   1   6   \_\_\_   8   2   \_\_\_   2   1

LABORATORY San Francisco P. D.

CRITERIA	ESSENTIAL			IMPORT T			DESIRABLE		
	Y	N	N/A	Y	N	N/A	Y	N	N/A
3.3.6 (I)					✓				
3.4.1 (I)				✓					
3.4.2 (I)				✓					
3.4.3 (I)				<del>✓</del>	✓				
3.4.4 (I)				✓	✓				
3.4.5 (I)					✓				
3.4.6 (I)				✓					
3.4.7 (I)					✓				
3.4.8 (I)				✓					
3.4.9 (I)					✓				
3.4.10 (I)					✓				
3.4.11 (I)				✓					
3.4.12 (D)								✓	

E/I/D = 0/12/1

TOTALS

— — — 5 7 — — 1 —

LABORATORY San Francisco P.D.

ESTIMATION OF CRITERIA RATINGS

	Total Number Possible	Total Yes	Total No
Essential	<u>38</u>	<u>20</u>	<u>18</u>
Important	<u>41</u>	<u>11</u>	<u>30</u>
Desirable	<u>22</u>	<u>9</u>	<u>13</u>

Calculations

Percent Essential =  $\frac{\text{Total Yes}}{\text{(Total Yes + Total No)}} \times 100 = \frac{20}{38} \times 100 = \underline{51.3}$

Percent Important =  $\frac{\text{Total Yes}}{\text{(Total Yes + Total No)}} \times 100 = \frac{11}{41} \times 100 = \underline{26.8}$

Percent Desirable =  $\frac{\text{Total Yes}}{\text{(Total Yes + Total No)}} \times 100 = \frac{9}{22} \times 100 = \underline{40.9}$

Standards

- Essential 100%
- Important 70%
- Desirable 50%

NOTE: N/A answers will not be counted in above calculations, but each N/A answer must be explained in writing.

Inspection Team: D. M. Lucas  
Susan Johns  
[Signature]  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

Laboratory Director [Signature]  
 Date 19 May 95 Time 18:20 Hrs.  
 Laboratory San Francisco P.D.