CITY AND COUNTY OF SAN FRANCISCO
GRAND JURY

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SAN FRANCISCO CIVIL GRAND JURY REPORTS SERIOUS DEFICIENCIES IN THE CRIME AND TOXICOLOGY LABORATORIES OPERATED BY THE POLICE DEPARTMENT AND THE MEDICAL EXAMINER. RECOMMENDS COMBINED FORENSIC LABORATORY AND ACCREDITATION TO AVOID LEGAL CHALLENGES IN FELONY COURTROOM TRIALS

The 1995-1996 Civil Grand Jury of the City & County of San Francisco has released today a timely and in-depth report, based on nine months of investigative study of the Crime Laboratory of the San Francisco Police Department and the Toxicology Laboratory of the San Francisco Medical Examiner's Office. The purpose of this investigation was to ascertain whether these laboratories are providing services which are accurate, valid, and unbiased and that these services are performed in a timely and professional manner.

Among its findings was the discovery that the SFPD Crime Lab (which lacks accreditation) has substantially less personnel, equipment and space for its operation compared to neighboring counties. Further, continuous budget reductions (amounting to a 1/3rd budget cut in the past five years) in the Toxicology Lab of the Medical Examiner has resulted in an operation utilizing obsolete equipment and which falls short of current quality assurance standards. By comparison with Oakland (Contra Costa County) and San Jose (Santa Clara County), San Francisco forensic laboratories are woefully inadequate.

The notoriety caused by a recent murder trial in Southern California, and the questioning of deficiencies of crime laboratories (DNA testing, collection and storage of evidence, fabric analysis, etc.) has put a long overdue spotlight on proper lab procedure and quality assurance. Unless and until the San Francisco forensic laboratories improve the quality of their testing, with modern equipment, and attain the accreditation of the American Society of Crime Laboratory Directors/Lab (ASCLD/LAB), there exists a situation which can seriously jeopardize the introduction and acceptance of evidence in felony criminal trials within the City and County of San Francisco. The Mayor, Board of Supervisors, the District Attorney, the Police Department, and the Medical Examiner's Office should give these glaring deficiencies priority attention to assure the citizenry that our justice system is not being weakened because of inadequate laboratory standards.

The Civil Grand Jury is an independent body of 19 citizens who serve for one year under the jurisdiction of the Superior Court. The function of the Grand Jury is to investigate local government. This report of the Grand Jury is the second of several published reports (involving investigations, findings, and recommendations) which will be issued before the expiration of its term on June 30, 1996. An earlier report on Information Technology was issued on May 17, 1996 (which called for a new Department of Information Technology headed by a new position of Chief Information Officer); this report is currently available from the Grand Jury Office, Room 100, 633 Folsom Street, Attention: Mr. Gary Giubbini, phone (415) 554-5057.

CITY AND COUNTY OF SAN FRANCISCO

San Francisco Police Department/Crime Laboratory (SFPD/CL) and San Francisco Medical Examiner/Toxicology Laboratory (SFME/TL)

Summary

The Civil Grand Jury investigated the Crime Laboratory of the San Francisco Police Department (SFPD/CL) and the Toxicology Laboratory of the San Francisco Medical Examiner's Office (SFME/TL) to ascertain whether these laboratories are providing services which are accurate, valid, and unbiased and are performing these services in a timely manner within the applicable government code sections.

We discovered that the SFPD/CL has substantially less personnel, equipment, and space for its operation when compared with crime laboratories in neighboring counties.

The SFME/TL has undergone continuous budget reductions, about ⅓ cut in budget, during the past five years. The SFME/TL has also lost a forensic toxicologist during this same time period.

It is obvious that both laboratories need to seek funds to hire additional staff, replace obsolete equipment, and acquire necessary modern equipment for analyses which will produce results that meet quality assurance standards. The Crime Laboratory must correct those deficiencies cited by the review inspectors of the American Society of Crime Laboratory Directors/Lab (ASCLD/LAB).

Background

- The recent O.J. Simpson trial in Los Angeles raised questions about deficiencies in the operation of the Los Angeles Police Department, their crime laboratory, and their Medical Examiner's office. Similar questions were then raised by citizens of San Francisco about the SFME/TL and the SFPD/CL.

- As part of its investigation, the Civil Grand Jury conducted extensive interviews, visited numerous sites and reviewed many documents (see Appendix E and Appendix F).

- In 1994, a San Francisco Crime Laboratory technician, now dismissed, failed to perform the confirmatory tests required by standard laboratory procedures. This resulted in the Public Defender's challenge to overturn the felony drug convictions obtained as a result of evidence examined by this technician over the course of several years.

- On June 5, 1995, the American Society of Crime Laboratory Directors (ASCLD) produced a report, "An ASCLD/LAB Review of Quality Assurance Procedures in the San Francisco Police Department Laboratory," which contains valuable information, suggestions, and a critique based on the Standards of Criteria contained in the ASCLD/LAB Accreditation Manual.

- The Medical Examiner and the Police Department will oftentimes work together on a criminal investigation. Each department conducts an investigation in its own area of expertise, and the departments coordinate with and consult each other on the same case for the criminal justice system. It also should be noted that the SFME/TL reports to the Chief Administrative Officer (CAO) and the SFPD/CL reports directly to the Deputy Chief, Investigation Bureau of the San Francisco Police Department.

Findings - San Francisco Police Department/Crime Laboratory (SFPD/CL) (see Appendix B)

1. Laboratory Space (work environment):

   a. In 1960 the SFPD/CL occupied 3,750 sq. ft. of laboratory space. Currently, this space lacks basic maintenance and contains dilapidated work benches, outdated safety equipment, inadequate lighting and poorly laid out work areas. (See Appendix F, Architectural Study)

   During 1991, an additional 1,500 sq. ft. of office space (for a total area of 5,250 sq. ft.) was occupied. This space is currently dedicated to DNA genetic typing and serology work. However, this area lacks fundamental laboratory equipment and utilities; contains no work benches, no running water, and no gas lines; and is deficient in much needed lighting and electrical outlets for the 10 technicians assigned.

   In comparison, the Oakland Police Crime Laboratory, which was built about the same time, 1960, with 3,700 sq. ft., now occupies a total of 6,700 sq. ft. (an

entire 6th floor of the Oakland Police Department) and employs 10 technologists. Their laboratory is well laid out, has good lighting and adequate working space, and is well maintained.

b. The SFPD/CL lacks sufficient secure storage space for evidence. Some evidence is stored on the fourth floor and the remainder in the basement area, a situation which is unacceptable for security reasons.

2. Laboratory Case Load:

a. Since 1979, narcotics cases have been processed by the SFPD/CL at the rate of approximately 6,500 per year, and the rate is increasing. Presently, there are about 10,000 cases per year, with the laboratory analyzing every sample submitted. San Francisco has a higher narcotics case load than other counties in northern California. Major cases investigated, such as homicides, sexual assaults, and robberies, have increased in number from 660 per year to 800 per year during the same time period.

In comparison, the Oakland Crime Laboratory does not test every drug sample brought to the laboratory. They test only specific drugs as required by the Vice Control Section which reviews the charges and decides which cases need analysis to support the charges. For example, of approximately 7,000 cases brought into the laboratory, only 4,000 samples are analyzed. The SFPD/CL tests every sample brought in.

b. The complexity of testing procedures has changed over time. Before the 1970's, only ABO blood typing was performed. In the 1970's, enzyme blood grouping became available and, now, DNA genetic typing is the current technology.

c. New ongoing programs place information on all firearms seized and booked into a data bank. This centralized database produces information to solve open cases such as drive-by shootings.

d. Defense attorneys are requiring additional criminalist time in court to validate some of the long established testing procedures.

3. Laboratory Equipment: (See Appendix A)

The SFPD/CL has some obsolete equipment which poses a liability to the prosecution in the sense that, with up-to-date equipment, it could generate better

documented evidence for a case, more information conducive to solving a crime, or even sufficient evidence to prosecute a case. Presented with more and superior evidence, the defense might be willing to plead guilty rather than go to trial.

Standard crime laboratory equipment which the SFPD/CL either does not have or has in outdated/obsolete models includes:

a. Fourier Transform Infrared Spectrophotometer
Currently this unit is unserviceable. It is required as a supplemental procedure for confirmation of narcotics analyses as prescribed in the Laboratory's Standard Operating Procedures (SOP) manual. This equipment is very discriminating and, for certain drugs, it can be used as a "stand alone" method of identification.

b. Ultraviolet Spectrophotometer
This unit is 15 years old. A new model would be valuable in avoiding time consuming analysis – 20 minutes to an hour as compared to 2 to 3 minutes on the new instrument. This instrument provides a quantitative assay on drugs as well as seminal enzymes and proteins which are essential for advanced serological analyses. It provides documented evidence (printout) of the analysis. This equipment is prescribed in the Laboratory's Standard Operating Procedures (SOP) manual for UV quantitative analysis for man-made drugs.

c. Gas Chromatography/Mass Spectrometer (GC/MS)
This standard equipment for the analysis of drugs is being adopted by most laboratories throughout the nation. It is prescribed in the Laboratory's SOP manual for use as a supplemental test for many types of drugs. It is very discriminating and, for certain drugs, can be used as a "stand alone" method of identification.

d. Drugfire (Automated Firearms Identification System)
This system provides identification data and digital imagery of microscopic marks on fired ammunition in unsolved shooting cases, information which can be stored in a database. Designed by the Federal Bureau of Investigation (FBI), it allows nationwide comparison with data from other jurisdictions. It should be noted that the Drugfire system of the FBI is different from the IBIS system used by the United States Government Bureau of Alcohol, Tobacco and Firearms (ATF).

Presently, the Crime Laboratory maintains only a manual photograph of the cartridge casing that has been recovered at the crime scene.

Note: This type of automated firearm identification equipment is important to Oakland given the number of gun-related crimes that occur in that city. Other identification systems may also be used. Time is required for input and for matching, and there can be substantial backlogs. Their firearm computer database equipment known as Integrated Ballistic Identification System (IBIS) was acquired in 1994 and is connected with the U.S. Bureau of Alcohol, Tobacco and Firearms (ATF) in Walnut Creek.

e. Scanning Electron Microscope/Energy Dispersion X-Ray (SEM/EDX) Analyzer
It is used to detect gunshot residue and to trace samples of paint, glass, hair, and fibers. Presently, the cost for analysis is paid out of the Police Chief's Contingency Fund or by the District Attorney's Office to an outside vendor. Annual cost for these analyses has been about $40,000 to $50,000, not including the Medical Examiner's cases. All full-service crime laboratories have this instrumentation with the exception of Oakland and San Francisco.

4. Management and Operation:

a. Implementation of the SFPD/CL's PCR DNA analysis program (see Glossary pg. 11) was put on hold due to the loss of a project criminalist. DNA genetic evidence is powerful in its ability to exculpate the innocent as well as to incriminate the guilty. It is able to distinguish the identity of one individual out of several million.

Presently DNA genetic testing is sent out to a private laboratory, such as the Forensic Science Associates at Richmond, or the State Department of Justice at Berkeley, at a cost of approximately $3,000 per case and $150 per hour for court testimony time. The SFPD/CL personnel assert that, if they were able to conduct the analyses, the cost would be reduced to $200 per case with testimony time included. (This does not include estimates of costs such as hiring personnel, purchasing equipment, and providing training.)

In contrast to the SFPD/CL, the Oakland Crime Laboratory's DNA program was fully implemented in September 1992 using DNA typing method DQ Alpha, and in February 1993 it was the first laboratory in the nation to be accredited in forensic DNA analysis by the ASCLD/LAB Accreditation Board. However,

Oakland also had implementation problems when their analyst resigned in September 1993, and the position was vacant for the remainder of 1993 and until April 1994 when the position was filled.

b. The budget system of the San Francisco Police Department does not, at present, allow the SFPD/CL Director to have budgetary autonomy over his division. Wages are annually negotiated between the Mayor and the unions. Expenses, supplies, services and maintenance are usually increased annually by 5%, or remain the same, depending on the projected annual cost increase. Requests for new personnel or capital improvement and/or replacement of equipment are submitted by the Director for the new fiscal year's budget.

   Based upon the SFPD/CL budget requests for FY 1993-94, FY 1994-95 and FY 1995-96, additional funds are needed to meet the requirements for staffing, to replace outmoded equipment and to acquire new equipment to improve laboratory capabilities. As a result, laboratory staff claim that they have been unable to take on new projects and to upgrade or replace obsolete equipment, because these requests have been denied. For FY 1996-97, they are making the same request for personnel to update protocol and get the equipment on-line. They are also requesting equipment to improve laboratory capabilities and the necessary funding for laboratory services.

c. The SFPD/CL is in the process of making changes in their laboratory procedures based on the ASCLD/LAB audit. Even if budgetary constraints preclude their full compliance with ASCLD/LAB guidelines, these changes bring them closer to meeting established standards and improving the quality of service to their clients.

d. The SFPD/CL management in the late summer of 1994 requested that ASCLD/LAB review their Quality Assurance procedures as a prelude for accreditation preparation.

   Two qualified ASCLD/LAB inspectors were assigned the task -- a Research and Development Program Administrator in the Bureau of Forensic Sciences of the Illinois State Police in Morton, Illinois and a retired Director of the Centre of Forensic Sciences of the Ministry of the Solicitor General and Correctional Services in Toronto, Ontario.

From the Summary of Criteria on the ASCLD's review of the Crime Laboratory, the findings are:

Essential % yes:	51.3
Important % yes:	26.8
Desirable % yes:	40.9

The grading system, as defined by ASCLD, requires that a laboratory achieve not less than 100% of the Essential, 70% of the Important, and 50% of the Desirable.

It was noted in the ASCLD report's conclusion that "staff appear to be strongly motivated and have the experience in forensic science to accomplish most of the requirements. A major problem is the physical facility which requires some enhancements in order to meet accreditation requirements."

By obtaining laboratory accreditation, the SFPD/CL would demonstrate that its management, operations, personnel, procedures, equipment, physical plant, security, and health and safety procedures meet established standards.

Findings - San Francisco Medical Examiner/Toxicology Laboratory (SFME/TL) (see Appendix B)

5. Laboratory Space (work environment):

The SFME/TL appears to have adequate space and laboratory instrumentation, well laid out working areas, good lighting and safety equipment.

6. Laboratory Case Load:

The number of toxicological requests on living subjects has increased as responsibilities in compliance with various State and City ordinance requirements are met.

7. Laboratory Equipment:

Of the major instruments in the SFME/TL, 4 out of 11 have reached and passed their life expectancy. The laboratory recently acquired a head space gas chromatograph for forensic alcohol analysis, replacing an obsolete instrument.

In general, manufacturers do not fully support instruments 15 years old or older. Replacement parts generally need to be hand fabricated or scavenged from other used equipment.

8. Management and Operation: (see Appendix C)

a. The SFME/TL also plays a role in the criminal justice system.

Information that the toxicology analyses generate helps the Medical Examiner to determine the cause of death, and also helps evaluate the significance of chemicals obtained from the living.

Toxicological analyses are performed on suspects in criminal cases (e.g., homicide, driving under the influence (DUI), probation failure, assaults) for various law enforcement agencies, such as the District Attorney, Public Defender, City Attorney, Police Department, and California Highway Patrol.

Results and data obtained from the SFME/TL assist in interpreting the behavior of a suspect and advise the law enforcement agency regarding the effect of the drug.

The SFME/TL performs examinations and tests in the following kinds of cases:

- Sexual assault injuries
- Victims and suspects for trace evidence and injuries
- Collection of blood from suspects and victims for serology, toxicology testing
- Alcohol and drug interaction in DUI cases
- Analysis for drugs on management control cases for the County
- Analysis for drugs on patients on probation

b. Replacing outdated and outmoded equipment and improving the laboratory capabilities are a major goal. Problems facing the Medical Examiner's Office

include the need to restore a toxicologist and the need to designate space for future expansion. Updating protocol, getting equipment on-line, and upgrading toxicology procedures continue as ongoing needs.

Recommendations-San Francisco Police Department/Crime Laboratory (SFPD/CL)

1. Secure financial support to acquire the aforementioned necessary staffing and standard crime laboratory equipment, including the equipment prescribed in the SOP manual (see Appendix A) to be on a par with other crime laboratories.

2. Place the DNA genetic testing program on-line as soon as possible.

3. Obtain ASCLD/LAB accreditation which will establish acceptable standards, quality assurance, integrity, security, and credibility for the evidence produced in serving the citizens and the criminal justice system.

   In order for the SFPD/CL to achieve the above recommended objectives, management of the SFPD/CL must be proactive in appealing to the Chief of Police, to the Mayor, and to the Board of Supervisors for desperately needed space and funds. The SFPD/CL must be given a much higher priority within the Police Department.

4. The SFPD/CL should have a mission statement which includes their statement of purpose, goals and objectives for moving into the 21st Century (see Appendix D).

   This statement of purpose should be similar to the mission statement established by the Santa Clara County District Attorney's Crime Laboratory, and might well include the following points:

   - Provide the Criminal Justice System with quality laboratory services through accurate and valid testing in a timely manner.

   - Promote a working relationship with the agencies of the criminal justice system in the City and County through improved communication and training.

   - Establish a state-of-the-art full-service laboratory through quality assurance programs, modern instrumentation, and automated analysis procedures.

Recommendations - San Francisco Medical Examiner/Toxicology Laboratory (SFME/TL)

5. Seek funds to replace those instruments that have passed their life expectancy and update necessary equipment.

6. Designate space (work environment) for future expansion.

7. Restore the position of Toxicologist.

Recommendations - Overall

8. If there is no continued significant improvement consistent with the above recommendations by June 1997, serious consideration must be given to combining the SFPD/CL and the SFME/TL under the aegis of another City Department where a Forensic Laboratory Director would have budgetary autonomy to oversee needs and administration of the combined laboratory. The combined laboratory would provide service and results that are accurate, reliable, valid and unbiased -- results which can stand up to review by other qualified laboratories in the nation and scrutiny by the courts.

9. If all the above recommendations are not acceptable, the Civil Grand Jury recommends that a Request for Proposal (RFP) be developed and let out for bid to qualified professional laboratories to perform all testing on a contractual basis for a limited duration of time (out-sourcing).

GLOSSARY

Chromatography - a method of separation based on selective absorption.

DNA - desoxyribonucleic acid.

Mass - the quantity of matter contained by a body, regardless of its location. Mass is constant and is distinguished from weight.

PCR - polymerase chain reaction.

Serology - the medical science that deals with serums.

Toxicology - the study of nature, effects, and detection of poisons and the treatment of poisoning.

Responses Required

ayor
Board of Supervisors
Chief Administrative Officer
District Attorney
San Francisco Police Department
San Francisco Medical Examiner's Office

APPENDICES

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APPENDIX A

STANDARD CRIME LABORATORY EQUIPMENT

EQUIPMENT	PURPOSE/USE	SAN FRANCISCO CRIME LABORATORY	OAKLAND CRIME LABORATORY	SANTA CLARA CRIME LABORATORY
Ultraviolet/UV Spectrometer	Assay of powder free drugs/seminal enzyme in SF Crime Lab SOP	Obsolete (15 yrs.)	Have	Have
Gas Chromatography/Mass Spectrometer (GC/MS)	Analysis of controlled substances in SF Crime Lab SOP	None	Have	Have
[illegible]er Transform [illegible]ared Spectrophotometer (FTIR)	Supplemental procedure for narcotic in SF Crime Lab SOP	Unserviceable, replacement required	Have	Have
Drugfire (Automated Firearms ID System)	Computerized technology for firearms & ammunition	None	Have	Have
Scanning Election Microscope & Energy Dispersive X-ray analysis (SEM/EDX)	For trace evidences - gunshot residue, paint, glass, hair, fibers	None *	None *	Have

All full service California Crime Laboratories have this instrumentation.

APPENDIX B

SUMMARY

Background/Findings

Background

	Police Department Crime Laboratory	Medical Examiner Toxicology Laboratory
Reports to:	Deputy Chief (S.F.P.D.) (Note: appears to lack support and to have low priority by the higher echelons of the Department)	Chief Administrative Officer (CAO)
In tion Exchange	with PD for bookings and DA for convictions	with PD and Crime Lab for bookings and DA for convictions

Findings

	Police Department Crime Laboratory	Medical Examiner Toxicology Laboratory
1. Space (work environment)	inadequate (Note: see text)	adequate (Note: see text)
2. Case Load	relatively high (Note: see text)	uneven (Note: see text)
3. Equipment	needs updating (Note: see text)	Some needs updating (Note: see text)

(Continued)

APPENDIX B

SUMMARY

Background/Findings

Findings (Continued)

	Police Department Crime Laboratory	Medical Examiner Toxicology Laboratory
4. (a) Management	needs improvement	needs some improvement
(b) Operation	(Note: see text)	(Note: see text)
	needs improvement	satisfactory
	(Note: see text) 1) per recent accreditation review 2) DNA testing program insufficient	
(c) Budget	detail required	specific
	(Note: ill defined, no fee-for-service)	(Note: fee-for-service from other departments, e.g., SFPD recruits' test by contract, SFFD on union MOU, City Employees' Union)

APPENDIX C

The following excerpts are from the Chief Medical Examiner's Annual Report, July 1, 1993 - June 30, 1994.

FORENSIC MEDICINE (excerpt, SFME/TL Annual Report, p.3)

Forensic medicine generally is considered to be a marriage of medicine and the forensic sciences oriented to medico-legal issues. The field is wide-ranging and growing, becoming even broader in scope than the traditional concept as practiced in Europe.

There has been continued growth and accentuation of the role of forensic medicine in the legal and medico-legal world over the past year. This office has continued its role in forensic medicine for both living and dead, playing a vital role in the community.

We serve in a number of places in the community. Some of these include:

Examination and diagnosis of the living:

- Examination and evaluation of child abuse
- Examination and evaluation of sexual assault injuries
- Examination and evaluation of spousal abuse
- Evaluation of citizens' complaints against the Police Department
- Testimony and interpretation of hospital records and procedures
- Evaluation of force and patterned injuries
- Examination of victims and suspects for trace evidence and injuries
- Collection of blood from suspects and victims for serology, toxicology, and other testing
- Court testimony on force, great body injury (GBI) and other issues
- Alcohol and drug interaction in driving under the influence cases and related issues
- Physiologic effects of drug interactions
- Toxicology, including environmental and industrial toxicities
- Teaching - Hospitals, forensic, law enforcement, community
- Analysis for drugs on patients on probation
- Analysis for drugs on management control cases for the County

APPENDIX C
(Continued)

Examination and evaluation of the dead:

Scene investigation, reconstruction and analysis
Evidence collection and testing
Blood spatter analysis and interpretation
Patterned evidence analysis and interpretation
Trace evidence collection
Time and place of death information
Forensic autopsy - consultation and interpretation
Analysis for chemical and limited serology testing
Forensic toxicology
Consultation with District Attorney and Public Defender
Reconstruction analysis and court presentation
Teaching - forensic and legal

EPARTMENT STATUS AND FUTURE (excerpt, SFME/TL Annual Report, p. 4)

The San Francisco Medical Examiner's Office currently faces some particularly difficult problems. Our overall workload is up - the numbers of deceased individuals as well as toxicology requests on living subjects have increased as have responsibilities regarding compliance with various ordinances. There are significant administrative responsibilities relating to indigent county dead, storage fees, removal fees and other issues. Replacing outdated and outmoded equipment as well as simply improving the office and laboratory capabilities from that typical of the late 1950's is a major goal. Fortunately, we were able to obtain some state funds offsetting a mandated protocol for sudden infant death. This funding source will help us to replace and update our forensic alcohol program, unchanged from the 1970's, thus helping meet one of the frequent legal attacks on the forensic alcohol testing that we perform for the county. Updating the protocol and getting the equipment on-line is a major obstacle, but one that must be completed. Upgrading the office computer system and providing data processing capability is another significant goal for the fiscal year.

APPENDIX C
(Continued)

Upgrading toxicology and pathology procedures is an ongoing process, one constantly necessary as new drugs and methodology are developed. New legally prescribed drugs as well as new illegal drugs come into use weekly. New test procedures, standards, linearity and, sometimes, equipment are needed to address these changes.

Record handling is an ongoing problem, one that we are more and more in need of addressing as "old" records continue to accumulate. We need to microfilm, or, in some way, reduce the volume of paper stored as records. These legal records are used frequently by families and others, so they must be readily available.

The continuous budget reductions have cost approximately one-third of our staff, and about the same reduction in our budget. Budget reductions have led to two court cases against the department, and the staffing reductions and cuts in buying ability have been major administrative problems requiring extra efforts from department staff to supply the materials and supplies needed for the department to function.

The staff is dedicated and hard working. In each case of reduced staff and budget, they have organized and worked to determine what we can do to continue the same or nearly the same level of service to the public. There have been delays in completing our work, and I expect this to get worse. We have had to reduce or eliminate some of our services to other departments. However, we plan to maintain service to the public at the current level for as long as we can.

APPENDIX C
(Continued)

TOXICOLOGY (excerpts, SFME/TL Annual Report, pp. 61 & 62)

Toxicology is the study of the interaction of foreign compounds, such as drugs, with living organisms (e.g., people). It involves knowing something of the nature of that interaction, how the foreign compounds break down (that is, how they are metabolized), and what effects they have on the health and behavior of the organism.

All of this information is vital to the role that toxicology plays in determining the cause of death, as well as in evaluating the significance of chemicals found in the living.

Generated within the Toxicology Department is information on samples from Medical Examiner's cases as well as from suspects in criminal cases (e.g., homicides, driving under the influence, probation failure (H & S 1150), assaults) and other persons to be tested at the request of various law enforcement agencies. The data obtained in these cases enable the toxicologist to assist in interpreting the behavior of the suspects involved, to advise the District Attorney, the Public Defender, the City Attorney, Police Department, the California Highway Patrol, and other agencies, and to give expert testimony in court as necessary in such cases as to the effect of drugs in the case. This application of toxicological facts to legal problems is Forensic Toxicology.

The Toxicology Department also performs analyses on samples submitted by the Police and Fire Departments in connection with the recruitment programs and other personnel requirements. The results in some cases are presented to the respective commission in official hearings.

Toxicological facts are determined through tests performed on biological samples (e.g., blood, urine, gastric contents, liver, etc.) taken at the time of autopsy or from living persons. The samples are subjected to a series of chemical manipulations designed to extract any drugs or other physiologically active compounds that may be present. The subsequent extracts are then examined by equipment set up to detect, accurately identify, and quantitate any materials that may be present. These determinations must be of unquestionable accuracy and as specific as scientifically possible, and they must be able to stand up to review by any other qualified laboratory in the nation.

APPENDIX C
(Continued)

The analytical methods most commonly used in the toxicological studies are gas and thin layer chromatography; ultraviolet, visible, and fluorescence spectrophotometry; and immunoassay techniques. Advanced techniques, such as mass spectrometry and HPLC (High Performance Liquid Chromatography) are used as necessary for confirmation of difficult samples. These precise and sophisticated methods require the use of advanced laboratory apparatus and highly trained personnel.

Levels of drugs in two or more body compartments (one of which is invariably blood) are routinely determined in order to answer the question of whether the drug use is acute or chronic. This approach is of the utmost importance in determining the time of ingestion and whether or not the intent of the ingestion was suicide.

The range of drugs available to the public is extremely wide, and the nature and type of compounds involved are highly variable. The methodologies necessary to conduct toxicological analyses have to be similarly wide-ranging and also continually expanded in order to keep up with the manufacture of new drugs, both legal and illegal. This is an important aspect of the Toxicology Department's work, often requiring extensive research. So, too, does the identification of "street-manufactured" compounds which are sometimes found in post-mortem samples. Also, with many drugs being compounded to have physiologic effects at very low doses, detection in body fluids is often extremely difficult.

The most common drugs in the community are alcohol and prescription items. However, illegal, or "street", drugs (especially morphine-type alkaloids (e.g., heroin), cocaine, and amphetamines) represent a very significant percentage of the compounds actually found in the cases presented to the Toxicology Department. Less commonly used drugs, industrial materials, certain gases, and various other foreign compounds have also been detected.

APPENDIX D

SAN FRANCISCO POLICE DEPARTMENT CRIME LABORATORY

THE PURPOSE OF THE LABORATORY

The Crime Laboratory furnishes forensic science services to Criminal Justice agencies to assist in providing an efficient and fair criminal justice program for the citizens of San Francisco.

THE GOALS OF THE LABORATORY

The goals of the Crime Laboratory are to elicit information from physical objects by use of the techniques of forensic sciences and to promulgate this information to the submitting agency for use in the criminal justice decision-making process.

HE OBJECTIVES OF THE LABORATORY

The objectives of the Crime Laboratory of Criminalistics include:

a. Completion of 80% of Major Cases within ten working days of receipt.

b. Completion of 95% of Controlled Substance Cases within six (6) hours.

APPENDIX E

Interviews and Observations

Individuals Interviewed:

- Director of Criminalists, Santa Clara County, Benny Del Re
- Assistant Director of Criminalists, Santa Clara County, Grady L. Goldman
- Director of the Oakland Police Crime Laboratory, Mary M. Gibbons
- San Francisco Police Department, Homicide, Lt. Pisciotto
- San Francisco Police Department, Robbery. Lt. Carew
- San Francisco Police Department, Sexual Assault, Lt. Stasko
- San Francisco Police Department, Deputy Chief, now Chief, Fred Lau
- San Francisco Crime Laboratory, Criminologist, S. Horikoshi (retired)
- San Francisco Crime Laboratory, Director of Forensic Service, J. Norris
- San Francisco District Attorney's Office, Deputy DA, L. Klee
- San Francisco District Attorney's Office, Deputy DA, J. Dwyer
- San Francisco Medical Examiner's Office, Chief Medical Examiner, Boyd Stephens, MD

Sites Visited:

- San Francisco Police Department's Crime Laboratory
- San Francisco Medical Examiner's Toxicology Laboratory
- Oakland Police Department's Crime Laboratory
- Santa Clara County, District Attorney's Office Crime Laboratory

Appendix F

Documents Reviewed

- Crime Laboratory Accreditation Program of the American Society of Crime Laboratory Directors (ASCLD/LAB)
- Bylaws of the ASCLD/LAB
- SF Crime Laboratory Capital Expenditures Request, FY 1996/1997
- SF Crime Laboratory Capital Expenditures Request, FY 1995/1996
- ASCLD/LAB Review of Quality Assurance Procedures in the San Francisco Police Department Laboratory, June 5, 1995
- Memorandum-Subject: A detailed Response to the ASCLD/LAB Review of Crime Laboratory Procedures, October 5, 1995
- S.F.P.D. Criminalistics Laboratory Controlled Substances SOP
- Annual Report, July 1, 1993-1994, Medical Examiner's Office
- Architectural Study, Hall of Justice/Crime Laboratory, Room 435, Expansion and Remodel, Department of Public Works Bureau of Architecture, November 2, 1994
- Oakland Crime Laboratory Year-End Report, 1994
- Crime Laboratory 1995 Annual Report, Office of the District Attorney, Santa Clara County
- Grand Jury, County of Santa Clara 1998-89 Final Report - County Crime Laboratory
- Santa Clara Crime Laboratory Services

Appendix F

Documents Reviewed
(Continued)

- Letter, January 7, 1996, from Boyd Stephens, MD, to Paul O'Leary, Foreman, 1995-1996 Civil Grand Jury, Re: Major Equipment in the Toxicology Laboratory
- National Association of Medical Examiners Standards, September 1987

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GEL file 39-96-2

CE OF THE MAYOR
SAN FRANCISCO

WILLIE LEWIS BROWN, JR.

July 18, 1996

The Honorable Judge Stuart Pollak, Judge
Superior Courts, Dept. 15
City and County of San Francisco
633 Folsom Street #634
San Francisco, CA 94107

Dear Judge Pollak:

This letter responds to the 1995-96 Civil Grand Jury review of the Police Department's and Medical Examiner's crime laboratories. The Civil Grand Jury made numerous recommendations regarding the laboratories, the thrust of which was that there is a critical need to fund certain improvements, including equipment and workspace.

Upon taking office in January 1996, I became aware of the sub-standard conditions that apparently have existed for years the Police Crime Laboratory and that the Grand Jury correctly identified in its report. As part of my proposed Fiscal Year 1996-97 budget I included substantial funding to address these conditions.

Significantly, I proposed moving the Police Department's crime lab from its quarters at 850 Bryant Street to Building 600 at the Hunter's Point Ship yard. Building 600 is a new, state of the art facility that includes 40,000 square feet of office space which is being remodeled to accommodate the workspace needs of the Police Crime Lab.

The cost of the move, including renovations and rent for the first year, will be more than $500,000. In addition, I proposed spending almost $1 million on new equipment. The new facility and equipment will address virtually all the Grand Jury's recommendations, according to the Police Department.

My proposed budget for the Police Crime lab is expected to receive final approval from the Board of Supervisors July 22, 1996. The new lab will be operational within four months.

Regarding the Medical Examiner's laboratory, my staff is reviewing the needs of the Department and will consider them in the context of other Citywide priorities. I would note that as Dr. Boyd Stephens states in his response to the Civil Grand Jury (June 11, 1996) the Medical Examiner's

..me lab continues to provide accurate, reliable and legally defensible results, and that the Civil rand Jury did not make findings to the contrary.

Sincerely,

Willie L. Brown Jr., Mayor