

FORENSIC INVESTIGATIONS IN SAN LUIS OBISPO COUNTY:

THE SLO COUNTY CRIME LABORATORY

THE SLO COUNTY CORONER'S OFFICE

INTRODUCTION

Viewers of current television shows such as NCIS and CSI have come to expect miraculous discoveries to be made by crime labs and coroners' offices. Television crime labs can match DNA samples within minutes and discover trace amounts of a rare poison in a deceased body by day's end. Coroners seem to know time and cause of death with one cursory glance at the crime scene. A further examination of the body at the crime scene readily reveals the height, weight, and right or left-handedness of the perpetrator. How real are those shows? This report by the SLO County Grand Jury will focus on the actual capabilities of the San Luis Obispo County Crime Laboratory (Crime Lab) and San Luis Obispo County Coroner's Office (Coroner's Office) in 2012-2013.

AUTHORITY

Section 925 of the California Penal Code authorizes the Grand Jury to “investigate and report on the operations, accounts, and records of the officers, departments, or functions of the county...”

PROCEDURE

The Grand Jury visited the Crime Laboratory and Coroner's Office, interviewed staff and researched California crime lab procedures. Further information was obtained from the Sheriff, Detectives and Crime Laboratory personnel.

NARRATIVE

Crime Laboratory:

Members of the 2012-13 Grand Jury visited the San Luis Obispo County Sheriff's Office Crime Laboratory on January 16, 2013. Although California crime labs are not required to be accredited, it is a long-term goal for the Crime Lab to receive an accreditation.

The Sheriff's Office Crime Laboratory is a full service facility serving local, state and federal agencies and is the only crime laboratory in the county. The services provided include suspect identification, chemical and toxicological analyses of body fluids, training and advising as needed. Each member of the laboratory brings unique insight and proficiency to the unit.

The forensic specialists working in the SO's Crime laboratory assist other agencies, free of charge, with crime scene investigations and evidence processing when those agencies request help. Some items of evidence must be outsourced to out-of-county laboratories. DNA, SEM and Ballistics analysis require instrumentation and expertise that economically is not feasible to bring in-house.

"The Chemistry and Toxicology section of the SO's Crime Laboratory operates under licensure by the Drug Enforcement Agency (DEA). The Forensic Laboratory Specialist working in this section of the laboratory is licensed by the DEA as a Forensic Chemist and by the State of California as a Laboratory Scientist. The two forensic specialists and the Cal-ID coordinator operating the rest of the crime laboratory are not credentialed (and are not required to be) but receive basic, intermediate and advanced training in fingerprint analysis, ridgeology, blood

spatter analysis, fire death, buried body recovery, crime scene investigation and other ancillary techniques.”¹

The Forensic Laboratory Specialist working in the SO’s Chemistry and Toxicology section assists other agencies for a fee with analyzing body fluids and possible controlled substances. It is the only Forensic Chemistry and Toxicology Laboratory in the county. Any testing that is outsourced is, again, due to lack of funds to have certain esoteric, infrequently-used methods in-house.

Grand Jurors were escorted by a detective and were introduced to the staff in charge of the various areas of the lab.

Fingerprint and Fiber Analysis Lab: The Cal-Id Coordinator described the work currently done in the lab as well as advances being made in fingerprint analysis. Of particular interest was a technology that enables officers in the field to electronically scan a person’s fingers and get a 30-second identity response (including a picture) if that person’s prints are on file in San Luis Obispo County. Lab technicians send DNA swabs to the Justice Department in Santa Barbara. It takes from two to three months to receive the requested analysis.

The fingerprint lab includes a Cyanoacrylate ester (superglue) chamber for developing prints from nonporous surfaces (e.g., guns, glass) and a fume hood (wet chamber) for developing prints from porous surfaces (e.g., paper, cardboard).

Trace and Imaging Lab: The staff demonstrated how material examined under different lighting conditions can reveal latent clues. Instruments available in the lab include different light spectrums, light table, cameras, comparison microscope (for ballistics), a large format printer, a polarizing light microscope for differentiating fibers, and an Electrostatic Detection and Analysis (ESDA) machine. The ESDA reproduces writing from an imprint similar to using a pencil over paper to see what was written on the covering page. The lab also has a large pin-up board and backdrops for reviewing evidence and taking photos.

¹ Ian Parkinson, County Sheriff

Chemical and Toxicology Lab: The daily routine of the office and the costly equipment used for drug detection was explained. The lab tests for five drugs: methamphetamines, cocaine, marijuana, heroin, and benzodiazepine tranquilizers. The technicians can do a three-day turn-around for drug and urine toxicology analysis. Of particular interest is the high priority work being done in the lab to determine if children have been exposed to these drugs, and if so to what degree and the consequences of that exposure.

This facility is in competition with other labs out of the county and utilizes grants. The lab conducts analyses for non-sheriff agencies to obtain necessary funding.

The lab receives grants for specific staff and equipment and raises additional revenue by charging other agencies for services rendered. Many public organizations use the services of the chemistry and toxicology lab. There are plans to enlarge the Toxicology Lab by the end of 2013.

Staging Room: All evidence is stored in the staging room until processed. Wet objects are dried there prior to testing. In addition to the staging room, the Crime Lab includes a garage annex for processing vehicles.

The Grand Jury noted that the employees are doing an excellent job in spite of having to work in a very limited and cramped space. The staff is very enthusiastic about what they do but it was the Grand Jury's understanding that they also believe that they are under-budgeted considering the potential benefits they can offer to the law enforcement community.

Coroner's Office:

The elected Sheriff-Coroner is responsible for all death investigations that occur within the County of San Luis Obispo. In order to determine the cause of death, many cases require an autopsy or medical examination. Autopsies are conducted by a certified forensic pathologist and assisted by one of the three full-time deputy coroners (coroner investigators). The three forensic investigators receive 80 hours of training at a coroner's school and then have practical experience working in the office. They also attend additional forensic training educational

events. The forensic pathologist serves three counties and does the autopsies in San Luis Obispo County once a week.

Prior to August 2012, the County leased facilities in a private mortuary in Los Osos and contracted with an independent Central Valley pathologist to conduct the autopsies. The forensic investigators had office space in the Sheriff’s Office. The Coroner’s Office was moved to a new permanent facility in a separate location from the Sheriff’s Office in August of 2012. This facility houses the administrative office, cooler, autopsy, evidence and forensic investigation rooms and a viewing room.

The consolidation of the above services into one location results in “more accurate and concise” outcomes. “The renovated facility now includes design features that improve the ergonomics of the autopsy process and reduces the chance of injuries.”²

Another important factor of the consolidation is the fiscal impact this renovation will have on the county. Sheriff Ian Parkinson negotiated the lease of the new property, which included renovating the space to meet the needs of the Coroner’s Office. In the past, the Sheriff’s Office paid \$62,190 annually to the private mortuary for the use of its facility to conduct autopsies, with an additional cost of \$8,400 for cleanup services. That expenditure was part of the approved Sheriff’s Office operating budget. Below are the anticipated costs and funding sources for the new facility. This contract and related services will result in no increased cost for the county and will have no additional impact on the General Fund.

<u>ITEM</u>	<u>COST</u>	<u>SOURCE OF FUNDING</u>
<u>Lease of property</u>	<u>\$60,000 annually</u>	<u>Current budget</u>
<u>Cleaning Contract</u>	<u>\$ 8,000</u>	<u>Current Budget</u>
<u>Refrigeration/Ventilation</u>	<u>\$30,000</u>	<u>Sheriff’s Asset Forfeiture</u>

² Ian Parkinson, County Sheriff.

Coroner investigators gave the Grand Jury a tour of the new facility on January 23, 2013. Jurors were shown the office area, evidence room, cooler, forensic investigation room and autopsy room.

The Coroner's Office reviews and determines the cause of death before a death certificate is processed. Last year 1400 deaths occurred in the county and 600 were investigated which resulted in 300 autopsies. The remaining 800 deaths that did not require coroners' investigations had death certificates signed by their physicians. The Sheriff's Department investigates all homicides and accidental deaths in the county, regardless of city jurisdiction. The Coroner's Office also keeps a hospice patient list that precludes the coroner from investigating those deaths.

Blood is drawn within 24 hours of death as some drugs break down in that time period making it difficult to determine exact cause of death. Blood samples from the Coroner's Office go to Central Valley Toxicology because the Sheriff's Crime Lab does not have the needed resources at this time to do all blood analyses. Fingerprinting and other technology used to determine physical identification are done at the Coroner's Office.

Office Area: The office area is a large common workroom for investigators and includes a separate clerk's office and separate sergeant's office. Investigators work regular business hours, 8-5, Monday – Friday, and take turns being on call weekly 24/7.

Evidence Room: Evidence is stored in lockers or a refrigerator. Toxicology samples are stored for eight weeks for natural-cause cases. The evidence room also has a drying machine for wet evidence prior to storing.

Cooler: The refrigerated room is kept at 38 degrees. To facilitate the transfer of bodies the room is equipped with stainless steel racks on rollers and an electric lift. The cooler has a capacity for 19 bodies.

Forensic Investigation Room: This room is used for the examination of homicide and sexual assault victims' bodies. It includes light sources capable of emitting multiple spectral frequencies and a specimen cabinet.

Autopsy Room: Considered to be "state of the art,"³ this room contains two stainless steel tables over which are cameras that send video to the viewing area. The water system continually eliminates fluids and tissue. A portable fingerprint scanner can return results in less than a minute. The ventilation system replaces air volume 24 times a minute. Equipment for the autopsy room was purchased with funds from different accounts rather than the General Fund:

\$22,300	Asset Forfeiture
\$18,000	Justice Assistance Grant
\$29,000	Sheriff's Advisory Foundation

Organs are weighed and recorded. CT scans are done for total body imaging (e.g., bullets, foreign objects, internal mutilation). There is a dressing area with a bathroom and shower for staff. A back-up generator ensures continuous operation and evidence protection for the entire facility.

Briefing room and viewing area: Official visitors can observe autopsies through the soundproof viewing window or via cameras with images projected on a large screen .

The Grand Jury found the new Coroner's Office exceptionally well equipped and staffed. Jurors were impressed that this was accomplished without costing the county additional money.

CONCLUSIONS

The Grand Jury found San Luis Obispo County has adequate facilities, processes and personnel to ensure accurate forensic outcomes in Crime Lab and Coroner cases.

³ Coroner Investigator

The Sheriff's Crime Laboratory is the centralized crime laboratory for the entire county. Outsourcing is only done when DNA, SEM, Ballistics or Coroner's Toxicology is required. It is not cost effective to bring DNA, SEM or ballistics in-house. The fact that some laboratory tests need to be done at larger facilities is not a detriment, and neither is the minor increased time required for these post-mortem analyses.

The Grand Jury was impressed that, without costing the county additional money, the Coroner's Office has improved its efficiency by consolidating all of its resources under one roof.

REQUIRED RESPONSE

This is an informational report. No response is necessary.