

# San Francisco Police Department Criminalistics Laboratory

## Audit of the Controlled Substances Unit

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### Purpose

The purpose of this audit is to assist the San Francisco Police Department (hereinafter referred to as SFPD) in assessing the operation of the Criminalistics Laboratory's Controlled Substance Unit. The audit process is intended to be a systematic, independent, and documented review of laboratory records and other relevant information, interviews of staff, and assessing them objectively to determine the extent to which the specified requirements are fulfilled.

The audit focused on:

- Analytical procedure selection, control and validation
  - Control of reagents and standards
  - Equipment calibration and maintenance records
  - Adequacy of case reports and notes and their disposition
  - Staff's awareness of the laboratory's Quality Manual
  - Evidence handling procedures
  - Proficiency testing and interlaboratory comparison studies
  - Personnel training records
  - Handling deficiencies and remedial action
  - Laboratory orderliness, health and safety measures
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### Audit dates

The audit was conducted March 23-25, 2010.

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### Records and other relevant information

The auditors reviewed the following documents:

- Criminalistics Laboratory Controlled Substances SOP
  - Report of SFPD Crime Lab Narcotics Analysis
  - Criminalistics Laboratory Operations and Quality Assurance Manual sections:
    - 3.1 Access Control and Security
    - 3.2.4 Case File Preparation
    - 3.2.5 Case Review and Report Publication
    - 3.2.6 Case File Storage and Access
    - 3.8 Quality Assurance Manual
    - 4.3 Work Conditions and Professional Conduct
  - ASCLD/LAB Inspection Report of November 17-20, 2009
  - SFPD Criminalistics Laboratory response of February 5, 2010 to ASCLD/LAB Inspection Report and supporting documentation
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## Audit of the Controlled Substances Unit, Continued

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- Staff interviews** Interviews of the following staff members were conducted by the auditors:
- Martha Blake, Quality Assurance Manager
  - Lois Woodworth, Criminalist III
  - Tasha Smith, Criminalist
  - Theresa Wong, Criminalist
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- Observations**
- **Analytical procedure selection, control and validation**
    - Recordation of "gross" weight versus "net" weight of drug evidence. Controlled Substances SOP (page 11 of 64) states recording gross or net weight is at the discretion of the analyst depending on sample amount. Gross weight refers to the weight of the drug substance plus the weight of the packaging (e.g., plastic bag or paper bundle) containing the drug evidence. Net weight refers to the weight of the drug evidence exclusive of the packaging material. Typically net weight of drug evidence is recorded for legal purposes.
    - Validation of new GC/MS and FTIR instruments has exceeded 6 months. Validation should be completed in a timely manner to insure instruments remain under warranty. The instruments cannot be used for the analysis of drug evidence until validation is completed and properly reviewed.
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- Observations**
- **Control of reagents and standards**
    - Chemical reagent bottles in the analyst's work areas are not properly labeled with hazardous warning labels. This is mandated under Cal-OSHA requirements. This is required for both prepared reagents and neat chemicals that have been removed from the original container.
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- Observations**
- **Equipment calibration and maintenance records**
    - There is a lack of documented instrument operational parameters for the GC/MS and FTIR in the Controlled Substances SOP
    - There are no written instructions for the maintenance/repair of balances or microscopes
    - There is no organized maintenance/repair documentation for microscopes and balances (also noted in ASCLD/LAB Inspection Report 11/17-20/09)
    - Instrument calibration is to be conducted weekly per Controlled Substances SOP and there were recordkeeping inconsistencies for the GC/MS instruments. Therefore, consider doing the calibrations monthly and set up calibration checks (standards with specific ion ratio criteria).
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## Audit of the Controlled Substances Unit, Continued

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### Observations

- **Adequacy of case reports and notes and their disposition**
    - The management of the laboratory needs to set a quality-directed (not quantity-directed) approach to casework.
    - The analyst's case notes and laboratory report of results are one and the same document. Although the *Report of SFPD Crime Lab Narcotics Analysis* has a check box to indicate there is instrumental data relevant to the analysis, the combination notes and report format makes page numbering of the notes incomplete and possibly misleading if there are attachments of FTIR or GC/MS instrumental data. The total number of note pages is never indicated on the *Report of SFPD Crime Lab Narcotics Analysis*.
    - Case notes on selectively reviewed cases do not reflect dates on GC/MS library comparison spectra in the case file. Interviewees report that only 10-15% of the drug cases are analyzed using instrumental analysis; i.e., GC/MS or FTIR.
    - Additionally, dates should be recorded throughout the documentation to indicate when work was performed as well as indicating at a minimum the starting and ending dates of the analysis – 3.2.4 Case File Preparation (page 5 of 6) – however this is not clearly indicated in the notes/drug report format.
    - The Controlled Substances SOP (page 30 of 64) and 3.2.4 Case File Preparation (page 4 of 6) both state that the analyst's notes include a "description of packaging," and this was lacking in the earlier reports of Madden and Woo. The unit supervisor indicated that she had addressed this issue with Madden and the description of packaging improved in later reports. This issue was not seen in later reports of Madden.
    - There is no clear indication whether the signature indicating "Reviewed by:" refers to the technical or administrative review of the *Report of SFPD Crime Lab Narcotics Analysis*. In response to the ASCLD/LAB Inspection Report of 11/17-20/09 the laboratory manager states "The Controlled Substances Unit has moved to 100% technical reviews with the signature on the report form indicating a complete administrative and technical review." This may be inadequate because the administrative and technical reviews are not clearly delineated in the report.
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### Observations

- **Staff's awareness of the laboratory's Quality Manual**
    - The laboratory has a comprehensive *Operations and Quality Assurance* manual that is available to laboratory analysts. Analysts are generally familiar with the procedures outlined in the manual.
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## Audit of the Controlled Substances Unit, Continued

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### Observations

- **Evidence handling procedures**
  - The chain-of-custody (COC) is not properly documented for internal evidence transfers; i.e., any analyst in the Controlled Substances Unit was able to gain access to any other analyst's short-term drug evidence storage locker, remove drug cases and assign themselves a controlled substance case when the evidence is shown to be in another analyst's possession. Spare keys to the analysts' short-term drug evidence storage locker were accessible to all analysts at all times. A universal barcode sheet is posted at the evidence control computer workstation to expedite evidence "transfers." Drug evidence transfers are generally not correctly recorded in the barcode transfer system.
  - Access to analyst drug storage lockers has now been limited. Spare keys to short-term drug evidence storage lockers are now in the possession of the Quality Assurance Manager. However, a supervisor can remove drug cases for barcode reassignment to another analyst when they are in the possession and secure storage of the analyst originally assigned the case. **This limitation was imposed in March 2010**
  - Casework is frequently removed for reassignment from an analyst's short term storage without an appropriate barcode transfer. The COC is missing a documented transfer of evidence.
  - Analyst's report that they use various techniques to indicate security of in-progress casework; i.e., stapling the outer drug evidence envelope or using a paper clip to "seal" the outer drug evidence envelope.
  - Items within the controlled substance envelope are placed in zip lock bags but are not securely sealed by tape or heat seal. This measure would have prevented the tampering with the in-progress casework that was placed in short-term storage conditions.
  - Drug evidence is delivered by the PCD couriers to the Controlled Substances laboratory and bar-coded in and deposited in an unsecured cardboard box on the floor. The security and COC of these cases could be called into question. Likewise cases to be returned to central narcotics storage are placed in a box for pick-up by PCD couriers.
  - Evidence handling procedures as detailed in the *Operations and Quality Assurance* manual are not being followed. On page 3 of 5 of section 3.1 Access Control and Security of the *Operations and Quality Assurance* manual it states an analyst "may open a (short-term security) container assigned to an(other) analyst for a compelling reason. In that event, the analyst will be notified, in verbal or written form and provided with the following information: 1) identities of person(s) accessing the container, 2) reason for doing so, and 3) date and time of access." Interviewees indicated that this procedure was not being followed in all instances.

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## Audit of the Controlled Substances Unit, Continued

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- Observations
- Proficiency testing and interlaboratory comparison studies
    - No deficiencies noted
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- Observations
- Personnel training records
    - Staff members assigned to the Controlled Substances Unit are not current with required training and infrequently (or do not) attend professional meetings to keep abreast of current technology.
    - Imposed time constraints (48-hour turnaround time) severely impact professional development of the unit's staff.
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- Observations
- Handling deficiencies and remedial action
    - In the instance where Madden failed to record the description of the packaging in her notes, the Supervising Criminalist reports that Madden was repeatedly counseled and the issue brought to the attention of all analysts at a unit meeting.
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- Observations
- Laboratory orderliness, health and safety measures
    - The laboratory is approximately ten years old. In its present configuration there does not appear to be adequate room or design features to effectively handle the volume of drug evidence submitted annually for analysis. There is, at best, only three (3) workstations for drug analysts. Current instrumentation could be relocated to add at least two (2) more analyst workstations.
    - There appears to be insufficient space when cleaning supplies, water carboys and flammables cabinets sit in hallways.
    - As noted earlier, chemical reagent bottles are not properly labeled with hazardous labels are mandated by Cal-OSHA.
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## Audit of the Controlled Substances Unit, Continued

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### Other observations

There are additional observations noted by the auditors:

- The combination of a 48-hour turnaround time coupled with an annual drug caseload that exceeds 14,000 cases and the limited staff of drug analysts (2-3 analysts during the period July-December 2009) creates an untenable situation and directly affects the quality of the analytical work. Good laboratory practices have been repeatedly short-changed in favor of high case throughput. Staff oftentimes commented that any change to the present drug analysis protocol; e.g., using instrumental analysis versus crystal tests for confirmatory tests, or recording net weight of the drug substances versus gross weight, or sealing inner drug evidence packages versus not sealing the evidence, would result in case turnaround times beyond 48-hours.
- The auditors believe that the matter of a 48-hour turnaround time for drug cases has seriously hampered the growth and quality of work in the Controlled Substances Unit. The stress and strain of trying to meet the demands of court has resulted in sacrificing quality for quantity. This is evident throughout the laboratory processes used in the Controlled Substances Unit; and, possibly provided the opportunity for evidence tampering and abuse of the evidence control system.
- The auditors heard on a number of occasions from the interviewees that the conditions and operations of the Controlled Substances Unit were dissimilar to the operations of the other forensic disciplines at the laboratory. Oftentimes the staff referenced the impact that 48-hour turnaround time imposed on unit procedures and casework productivity. The Controlled Substances Unit should not be singled out nor excuses made to operate the unit differently than other forensic disciplines.
- Evidence tampering could have been prevented had good laboratory practices been in place and practiced by Controlled Substances Unit staff:
  - Sealing the inner drug evidence packaging, either by a tape seal or heat seal upon completion of the analysis is a good forensic laboratory and evidence handling practice. Since the evidence packaging was, for all intents and purposes, "open and accessible" for whatever reason prior to completing the analysis and inserting a certified copy of the report in the drug evidence envelope this practice provided the opportunity for early and undetected evidence tampering

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## Audit of the Controlled Substances Unit, Continued

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### Other observations (continued)

- Accessibility of spare keys to the analyst's short-term drug evidence storage locker was a questionable violation of good laboratory practices. The fact that the spare keys to an analyst's short-term drug evidence storage locker were readily available – albeit in a semi-controlled key cabinet – provided the opportunity for undetected entry into a secure evidence storage cabinet as well as undetected evidence tampering. Although the spare evidence locker keys are now secured with the Quality Assurance Manager, the practice of allowing access to an analyst's short-term drug evidence storage locker for “compelling” reasons should be reconsidered by providing a secure general drug evidence storage locker.
  - The supervisor, Lois Woodworth, was assisting in analyzing drug cases, handling the breath-testing program and testifying in court on breath alcohol cases. These duties alone are burdensome and this left very little time for her supervision of the Controlled Substances Unit. Furthermore, it is unclear who she was taking direction from – the Quality Assurance Manager or the Laboratory Manager. Ms. Woodworth was appointed supervisor less than one year ago and does not appear to have received comprehensive management training or guidance as to duties, authority and responsibilities.
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### Recommendations

- The auditors make the following recommendations:
- Install a Laboratory Information Management System (LIMS) that includes such capabilities as evidence control and electronic recordation of chain-of-custody, electronic note-taking, electronic report generation and distribution, and tracking analyst's performance.
  - Technical and administrative reviews should be clearly delineated on the laboratory report and all analytical notes should be separate from the report of the results of the analysis.
  - A secure central storage area or cabinet should be used, rather than a box on floor, for incoming and outgoing drug evidence.
  - It is good laboratory practice to heat-seal or tape-seal the ziplock bag or the container in intimate contact with the drug evidence and place initials across the seal.
  - Reference ASCLD/LAB: 1.4.1.3 Discussion: *When it is necessary to place evidence in a container to protect it from loss, cross-transfer and/or contamination, the container must be properly sealed. Proper seals may be accomplished in various ways such as heat seal, tape seal and lock seal. All seals must be initialed or otherwise marked to document the person sealing the evidence. Heat sealed packages must have initials or other identification across the heat seal to be properly sealed.*
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## Audit of the Controlled Substances Unit, Continued

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**Recommendations**  
(continued)

The auditors make the following recommendations:

- Increase the number of Controlled Substances Unit staff to handle the estimated 14,000+ drug cases submitted annually to the Criminalistics Laboratory.
  - In the recently issued report *An Examination of Forensic Science in California November 2009* of the California Crime Laboratory Review Task Force ([http://ag.ca.gov/publications/crime\\_labs\\_report.pdf](http://ag.ca.gov/publications/crime_labs_report.pdf)) the task force notes that the average number of drug cases completed per analyst per year (2007) was approximately 1,053 cases/analyst (Table 9, page 64). Furthermore, the report also includes information on “ideal” drug case turnaround times of 1-20 days versus actual drug case turnaround times of 1-63 days (Table 11, page 66). The SFPD Criminalistics Laboratory’s Controlled Substances Unit staff average 5,000 to 7,000 drug cases per analyst per year and provide a 2-day turnaround time.
- Expand and remodel the Controlled Substances Laboratory in order to accommodate additional Unit staffing, work flow, alleviate potential overcrowding due to added staff, and provide a clean well-organized work area.
- Ensure that drug casework reassignments are better controlled and documented by either ensuring secure transfers of drug evidence using the barcode program to clearly document the transfer from analyst A to analyst B; or, by storing unworked drug cases in a central depository (the secure storage cabinet noted above) for easy reassignment rather than storing unworked cases in an analyst’s short-term drug evidence storage locker.
- Stop the practice of reporting gross weights of drug evidence and report drug weight as the net weight.
- Improve communication between management and staff. Laboratory management needs to dictate the direction and priorities of the laboratory in order to ensure a quality product.
- Laboratory supervisors should supervise and not be responsible for analyzing casework.

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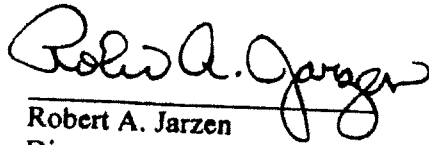
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## Audit of the Controlled Substances Unit, Continued

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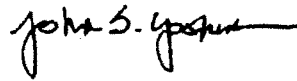
Submission of  
the audit report

The audit report is respectfully submitted March 29, 2010.



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