

# CRIMINALISTICS DIVISION

## 2007 Annual Report

The Criminalistics Division consists of several units, each of which is responsible for the scientific evaluation, analysis and interpretation of physical evidence. The laboratory is structured into three areas: Latent Prints Development and Comparison, Drug Analysis and Major Criminalistics. In some cases, technical staff is assigned to more than one unit depending on individual skills and unit caseloads.

### **1. Staffing**

Total authorized staff in the Division is 24 FTE. The Division began the year with ten vacancies in technical positions. By the end of the year, the number of vacancies had been reduced to five. Three Criminalist positions added at mid-cycle 2006 to the Biology Unit to support the analysis of sexual assault evidence were filled by July however, one of those staff resigned in December. A vacancy was filled in the Drug Analysis Unit; and another was filled in the Latent Print Comparison Unit. We were not successful in filling a second Latent Print Examiner position. A second attempt at recruitment was conducted in November-December 2007. The Latent Print Unit will not reopen fully until the second vacancy is filled. Recruitments for four the five vacancies were underway when the year concluded. There were no retirements.

The Division also received assistance in the IBIS Program from a police officer who works variable hours per week on overtime. She is not included in the 24 FTE as she is not formally assigned to the laboratory.

We also employed the services of a Temporary Contract Employee who is a retiree. This individual conducted Firearms Unit casework, including technical review, during the year. His services will continue to be needed until casework qualified staff are hired in or developed internally.

*Table 1. Crime Laboratory Staffing as of December 31, 2007*

<b>Classification</b>	<b>Authorized</b>	<b>Vacancies</b>	<b>Affected Units</b>
Criminalist I	2	0	
Criminalist II (one underfilled at Crim I level)	14	3	Firearms: 2 DNA: 1
Latent Print Examiners	2	1	Latent Prints
Criminalist III	3	1	Firearms
Police Evidence Technician	1	0	
Office Assistant II	1	0	
Crime Lab Manager	1	0	
<b>Total</b>	<b>24</b>	<b>5</b>	

.After several years of trying, we were finally able to achieve flexible staffing for the Latent Print I and II series and the Criminalist I and II series. This significant achievement allows for more flexibility in recruitment and staffing, and provides a mechanism for promotion of staff based on time in grade, knowledge, skills and abilities rather than vacancies at the higher level. This benefit should help us recruit and retain staff.

Our biggest challenges are in restaffing the Latent Print Unit and the Firearms Unit. We will have to train our own firearms examiners as we have been unsuccessful in hiring experienced examiners.

There was one four month leave associated with childbirth. None of the following applied to us: temporary reassignment, hiring freezes, promotions, or retirements.

## **2. Fiscal Management Report**

Based on Period 13 of FY 06-07 budget data for all accounts under Organization Code 102610.

<b>Category</b>	<b>Budget</b>	<b>Encumbrances</b>	<b>Actuals</b>	<b>Balance</b>
Personnel	\$2,850,480.00	\$0	\$2,104,410.72	\$746,069.28
Overtime	\$22,050.00	\$0	\$74,360.60	-\$52,310.60
O&M	\$327,735.95	\$22,171.80	\$305,665.25	-\$101.10
Grants	\$963,278.57	-\$0.01	\$175,445.41	\$787,833.17

Overage in Overtime categories is due primarily to employment of a police officer to serve as an IBIS technician. Her overtime hours, which accounts for 62% of the overrun, vary week to week. She is responsible for test firing and database entry of seized weapons. The civilian overtime is associated with casework to meet court or other deadlines and to conduct crime scene examinations and accounts for 38% of the overrun.

## **3. Training**

<b>Number of Staff</b>	<b>Forensic Science Training (hrs)</b>	<b>Departmental/City Training (hrs)</b>	<b>Total (hrs)</b>
20	1,212	171	1,383

Departmental/city mandated training includes training associated with the NSA.

Forensic Science training includes all training across all disciplines and subject matter areas in which laboratory staff is involved. The training ranges from subject matter specific courses, such as Forensic Microscopy, to multidisciplinary training such as the American Academy of Forensic Sciences Annual Conference. Management training is largely related to laboratory management topics, such as the annual conference of the

American Society of Crime Laboratory Directors, but also includes management topics of broader application or management topics chosen by the Department.

## **4. Significant Accomplishments**

The Laboratory underwent its five year reaccreditation inspection in December and expects to complete the requirements for reaccreditation by the end of April 2008.

The Forensic Biology Unit had a perfect score on their October 2007 External DNA Quality Assurance Standards Audit.

The Forensic Biology Unit implemented an array of new technology which is aimed at improving throughput and expanding analytical capabilities in the Forensic DNA area.

We succeeded in filling five out of the ten vacancies we had at the start of the year.

We succeeded in achieving flexible staffing for the Criminalist and Latent Print Examiner series at the I and II levels.

We worked on numerous high profile cases, particularly in the Forensic Biology and Firearms Units.

We continued to provide 24 hour turnaround in almost all drug analysis requests, which results in considerable efficiency and cost savings to the department in that drug offense arrestees can be charged within 28 hours of their arrest.

We made progress in reopening the Latent Print Unit to some comparison case. The Unit has been shuttered since May 2006. It cannot fully reopen until the second Latent Print Examiner vacancy is filled. In the meanwhile, we continue to send cases to Contra Costa County Sheriff's Office Crime Laboratory for analysis.

We provided crime scene response in ten serious cases.

It is one of the Division goals for all technical staff to obtain relevant external certification in their areas of casework. To date, 9 of 13 certification eligible staff (69%) have become certified. These cover the areas of General Criminalistics, Forensic Biology, Firearms, and Fire Debris Analysis. Several staff members are scheduled to take examinations in 2008.

During the period we were involved in approximately \$600,000 worth of grant funded work.

Jennifer Mihalovich was elected to the position of President-Elect of the California Association of Criminalists, the major criminalistics professional association in the state. Next year she will progress to President and in the third year will become Immediate Past President.

Ms. Mihalovich was also appointed to a State task force on forensic science created by AB 1079. This task force will study and make recommendations on the delivery of crime laboratory services over the next 18 months.

Shannon Cavness continues to serve a two-year term on the Board of Directors of the California Association of Criminalists, serving as Regional Director North.

Mark Bennett and Lansing Lee were recognized by the Association of Firearms and Toolmarks Examiners for their assistance to the San Francisco Police Department in hosting the 2007 AFTE meeting in San Francisco.

Mary Gibbons was appointed to a Crime Lab Task Force Advisory Committee serving the California Association of Crime Laboratory Directors.

No department awards were received during 2007.

Please see Productivity and Performance Data for additional accomplishments.

## **5. Productivity and Performance Data**

### **5.1 Latent Print Unit Casework Activities**

The Unit received latent prints recovered in 1,264 offenses during 2006, an 8.7% decrease in offenses with latents. Discussions with the PET Unit indicate that they are becoming more knowledgeable and selective in what they know will constitute usable latent prints. Due to the loss of all qualified latent print examiners, the quality of these prints has not assessed after March 2006.

#### ***Latent Print Casework Received***

<b>Description</b>	<b>2004</b>	<b>2005</b>	<b>2006</b>	<b>2007</b>	<b>% Change</b>
Total # Offenses with Latent Prints	1,390	1,385	1,264	1038	-17.9%
Offenses with Computer Quality Latent Prints	654	725	NA <sup>1</sup>	NA <sup>1</sup>	NA <sup>1</sup>
Latent Print Processing Requests Received	159	116	85	95	+11.8%
<b>Comparison Cases Received</b>	<b>766</b>	<b>873</b>	<b>NA<sup>2</sup></b>	<b>NA<sup>2</sup></b>	<b>NA<sup>2</sup></b>
“Named” Comparisons	112	148	71	57	-19.7%
Computer Comparisons	654	725	NA <sup>2</sup>	NA <sup>2</sup>	NA <sup>2</sup>

1. Quality assessments suspended in March of 2006 due to staffing.
2. Could not be ascertained because it is dependent on doing quality assessments.

***Latent Print Casework Reported***

<b>Description</b>	<b>2004</b>	<b>2005</b>	<b>2006<sup>1</sup></b>	<b>2007<sup>1</sup></b>	<b>% Change</b>
Latent Print Processing Requests Completed	108	101	85	75	-11.2%
# Exhibits Processed	927	876	950	927	-2.4%

1. 2006 and 2007 data incorporates only that data from OPD LP Unit. Data for cases submitted to Contra Costa County is reported separately.

***Contra Costa County Submissions:*** s a consequence of the closure of the Latent Print Unit in May 2006, selected cases have been submitted to Contra Costa County for analysis beginning in July 2006. This has provided the department and the District Attorney’s Office with latent print comparison or CAL-ID casework in the highest priority case requests. The tables below provide an overview of the data of the 109cases submitted to Contra Costa County in 2007.

***Latent Print Casework Submitted to Contra Costa County***

“Named” Comparisons (Pending Cases)	27 (3)
Computer Comparisons (Pending Cases)	82 (12)
“Named” Comparisons - Suspect(s) Identified (Hit Rate)	7 (29.2%)
Computer Comparisons – Suspect(s) Identified (Hit Rate)	22 (31.4%)

**5.2 Drug Analysis Unit Casework Activities**

The laboratory attempts to provide 24-hour turn around time on all drug analysis cases. This effort supports the Department’s and the District Attorneys Office interest in charging suspects prior to release. The Unit requires at least 3 FTE of maintain 24 hour turnaround on case requests.

***Drug Analysis Unit Statistics***

<b>Description</b>	<b>2004</b>	<b>2005</b>	<b>2006</b>	<b>2007</b>	<b>% Change</b>
Cases Received	6,175	5,184	4,984	5,330	+6.9%
Cases Analyzed	3,312	2,816	2,734	2,807	+2.7%
Exhibits Analyzed (Casework)	4,043	3,600	3,576	3,724	+4.1%
Exhibits Analyzed per Case	1.22	1.28	1.31	1.33	+1.5%
Exhibits Analyzed (Quality Control)	272	238	265	280	+5.7%

As was the case for the last two years, the percentage of cases that required analysis by instrumental methods increased. This is due to infrequently encountered “designer” drugs and/or samples containing multiple controlled substances. The number of bulk marijuana cases decreased slightly: 14 bulk cases were received, down from 17 in the previous year.

**5.3 Major Criminalistics Unit Casework Activities**

Major criminalistics cases consist of firearms examinations, biological material identification and genetic typing using DNA directed methods, recovery of trace evidence, and field investigations. The Unit received 700 requests in 503 cases in 2007, decreasing 4-8% over 2006 levels. The cases backlogged situation worsened profoundly, increasing by 47% to 845 cases. Backlog in Firearms increased 53% due to loss of trained staff and the retirement in at the end of 2006 of one of the staff. The Firearms Unit alone accounts for 67% of backlog cases in the laboratory. This problem will increase in 2008 and remain problematic until new, experienced staff can be hired or developed internally.

The backlog in Forensic Biology increased by 14% over 2006 levels, but overall requests for service in this area declined by 8.5%. Thus, new requests do not account for the increase in backlog in this unit. Increase in the backlog is in part due to time diverted from casework to train new Biology Unit staff and to validate new protocols and instrumentation aimed at achieving better throughput.

***Major Criminalistics Casework Received***

<b>Description</b>	<b>2004</b>	<b>2005</b>	<b>2006</b>	<b>2007</b>	<b>% Change</b>	<b>Cumulative Backlog</b>
Cases Received	318	347	528	503	-4.7%	845 (572)
Requests Received	523	572	762	700	-8.1%	1134 (829)
Firearms	349	302	446	408	-8.5%	763 (497)
Serology/DNA	168	263	301	282	-6.3%	331 (291)
Other *	1	1	1	0	NA	29 (32)
Crime Scenes	5	5	10	10	No change	11 (9)

\* trace recovery, impressions, physical match

***Major Criminalistics Casework Reported***

<b>Description</b>	<b>2004</b>	<b>2005</b>	<b>2006</b>	<b>2007</b>	<b>% Change</b>
Cases Reported	313	333	284	201	-29.2%
Requests Reported	492	544	457	348	-23.9%
Firearms	400	316	240	119	-50.4%
Biology/DNA	86	222	220	226	+1.8%
Other *	0	1	1	0	-100%
Crime Scenes	5	4	6	13	+117%

\* trace, impression evidence, physical matches

**5.3.1 Forensic Biology Unit Casework Activities:** Requests for service declined by 6.3% over last year. Requests completed (226) increased 1.8% from last year. While most requests for work include a request for DNA analysis, 76% of the requests reported in 2007 actually resulted in a DNA analysis (171 case requests). Typing is a function of whether sufficient potentially probative biological material was found on the evidence items examined.

The cumulative year-end backlog of biology requests was 331, up 13.7% from last year. Nine backlogged requests were cancelled during the year.

***CODIS Entry and “Hit Rate”:*** CODIS is the name for the National DNA Database which consists of known DNA profiles of offenders and other database eligible persons, and DNA profiles developed from evidence in cases. It is the primary mechanism by which evidence in crime incidents can be associated with individuals in the database (potential perpetrators) or with evidence in other crime incidents, thereby establishing serial crimes. The Criminalistics Division enters DNA profiles developed from evidence samples into the database. An association to a person or to another case made through the database is informally referred to as a “hit”.

A total of 663 profiles from 610 cases have been entered into CODIS to date since the inception of the program in 2000. Fifty-seven (57) DNA profiles were submitted to CODIS during this reporting period.

The laboratory has achieved named individual matches on 291 of cases and case-to-case matches on an additional 33 cases. A total of 338 CODIS matches have been made since entering data into this database. Some cases result in more than one match. The 33 “case-to-case” hits have not yet been associated with a named individual.

The case requests conducted in the laboratory for the year 2007 generated 50 individual hits in 48 cases and 1 case-to-case link in CODIS.

Our hit rates are among the highest in the state and are detailed in the table below. Here are the highlights:

- Overall hit rate (named and case-to-case): 53% (324 hits/610 cases entered)
- Overall named hit rate (all cases): 48% (291 hits/610 cases entered)
- Named hit rate in homicide cases: 38% (49 hits/128 cases entered)
- Named hit rate in sexual assault cases: 51% (230 hits/453 cases entered)

**5.3.2 Forensic Firearms Unit Casework Activities:** We received 408 firearms requests—a decline of 8.5% over 2006 levels. A total of 12 of these were generated as a consequence of IBIS hits. A total of 119 requests were reported, corresponding to a decrease of 50.4% over 2006. This downturn comes as no surprise considering that the unit carried fewer than 1.5 FTE. The backlog increased by 54% compared to 2006 and finished the year at 763 requests.

With the present staffing level, the Firearms Unit is unable to provide timely service on all cases that require immediate attention. Cases involving suspects apprehended with

firearms are being prioritized, as well as high profile cases and cases pending trial. The remaining cases, mainly ADWs—many of which have a high potential for being linked to other cases in IBIS—are not currently being completed.

**IBIS:** This year represents the 13th year of the Crime Laboratory’s involvement with the Integrated Ballistics Identification System (IBIS). Weapons seized by the Department are test-fired and included in the IBIS database. The number of weapons evaluated for the IBIS entry decreased by 10% over last year.

This year 12 new linkages were made, bringing the total to 250 cold hits since the start of the program in 1995. Of these hits, 9 involved homicides, while the remaining 3 involved ADW incidents.

The Crime Laboratory has continued to assist the California Highway Patrol (CHP) by examination and entry of firearms recovered by them. The number of firearms submitted by CHP is low enough not to significantly affect OPD casework at the moment.

***IBIS Casework***

Description	'05	'06	'07	Total**	% Change 2006-2007
Weapons evaluated	413	350	314	4940	-10%
Weapons test fired and databased	385	299	304	4689	-2%
<i>Primary Evidence</i>					
# Shooting incidents involved	149	150	50	1373	-66%
# Evidence items databased	235	177	100	2052	-43%
# Hits	47	39	12	250	-69%
Hit Rate*	31.5%	26.0%	24.0%	18.0%	

\* The hit rate is defined as the number of IBIS linkages versus the number of primary evidence cases entered into the system.

\*\* Total is total for the program since its inception in 1995.

A total of 314 firearms were evaluated and 304 firearms were found suitable for test firing and IBIS entry. A total of 100 primary evidence samples were added to the database this year—a decrease of 43% over 2006 levels.

**5.3.3 Field Examination Casework Activities:** Laboratory staff received a total of 10 major crime scenes during 2007 the same number as last year. Seven were homicide cases; the others were missing persons case, a kidnapping case and a carjacking.

**5.3.4 Division Court Activity:** The Criminalistics Division received 1,461 subpoenas and made 46 court appearances in 2007. The numbers reflect a 3% increase in subpoenas and a 25.8 % decrease in court appearances over 2006 activity. Most of the subpoenas arise from drug cases, however most court appearances involve major crimes against persons.

**Other Productivity Performance Data That Do Not Apply to the Division**

This is an entirely civilian operation. Therefore, the following productivity data do not apply to us: citations issued, arrests, cases investigated/cleared, community meetings

attended, policies completed, projects closed, vehicles towed, warrants cleared, written or served.

## **6. Other Performance Data**

There was no need for corrective action in the Division during 2007 pertaining to applicable indicators listed in DGO A-7 Annual and Departmental Reports. There was one personnel complaint settled by Informal Complaint Resolution Process. There were no vehicle collisions. The following performance data do not apply to this Division: uses of force and vehicle pursuits.

## **7. The State of the Division, Plans and Goals**

The state of the Division is precarious. Filling our vacancies with experienced personnel has been challenging and only partially successful. Five vacancies remain. Primary obstacles have been the short supply of skilled examiners coupled with serious competition from other laboratories that pay better and have better facilities.

Further, we are constrained by the budget process in multiple ways. This fact was recognized by our reaccreditation inspectors and is addressed in their report. They considered the budget inadequate for our organizational scope, complexity and caseload.

- (1) We do not have adequate staff to support the forensic databasing functions—specifically IBIS and CALID—that are available to us and should be employed routinely to solve crime.
- (2) We do not have adequate support staff for administrative functions related to custodial evidence duties and procurement of supplies, which have become increasingly onerous undertakings.
- (3) We received no budget in FY 07-09 for new or replacement capital equipment for obsolescent instruments, although new instruments are needed.
- (4) Portions of the budget are inadequate (e.g. funding for equipment service contracts, accreditation, proficiency testing, technical and office supplies).
- (5) We have no budget for mandatory training and continuing education of staff apart from a small federal grant. We have received zero support during FY 07-08 in the way of department training funds. This is unprecedented.

(6) The laboratory facility is inadequate for a staff of our size and complexity and seriously impairs productivity and expansion.

The solution to many of these issues should have been part of the discussion in the last budget preparation process, however no input as to training, equipment or O&M was requested.

Despite the challenges they face, Division employees provide high quality forensic work and have remarkably good morale. They make a great team. They thrive on being of service to the department and the City and in contributing to the criminal justice system in which they play a critical role.

Our plans and goals for the coming year are as follows:

- Fill all vacancies
- Complete all requirements for reaccreditation by April 2008
- Continue/expand DNA Cold Hit Program for unsolved serious assaults and homicides
- Re-open the Latent Print Comparison Unit
- Seek accreditation for the Latent Print comparison subdiscipline as soon as possible once unit reopens
- Re-establish a fire debris analysis capability in the Chemistry Unit.
- Procure and install a Laboratory Information Management System (LIMS)
- Revive serious discussion about a modern laboratory facility
- Begin the migration of our quality assurance program to the ASCLD-LAB International (ISO- based) accreditation program with readiness by 2012.

Respectfully submitted,

Mary M. Gibbons, Manager  
Criminalistics Division