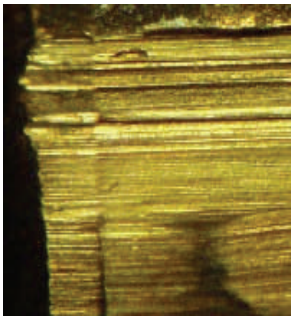

Washington State Patrol
Forensic Laboratory Services Bureau

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Firearms/ Tool Marks

Firearms/Tool Marks

The Firearms and Tool Marks functional area is one of the smallest sections in the Crime Laboratory Division, with scientists performing casework in the Tacoma, Seattle, and Spokane laboratories. We now have a total of seven examiners as we have added three new examiners in the past year. Each new examiner completed a lengthy training program before beginning firearms-related comparison casework.

Analysis Offered

- Bullet/cartridge case comparisons
- Investigational information on projectiles or fired cartridge cases
- Comparison of ammunition components to provide investigational information on projectiles or fired cartridge cases
- Serial number restoration
- Tool mark analysis and comparison
- Muzzle to target distance
- Shotgun pattern analysis
- Assistance to CSRT on trajectory analysis and reconstruction
- Examination of electronic control devices (TASER) and other less lethal projectiles
- Entry of cartridge cases into IBIS/ NIBIN database

We recently ceased operability examinations to allow us to focus our efforts on complex analyses. (See FAQs, page 3). With more examiners, we anticipate that our backlog and turn-around times will decrease. Our goal is to provide more training to our agencies.

DID YOU KNOW?

The state wide Firearms and Toolmarks section backlog has dropped over 300 requests since July of 2009?

Tacoma—Terry Franklin
(253) 538-3250

Seattle—Rick Wyant
(206) 262-6020

Spokane—Bill Culnane
(509) 625-5401

Tool Marks

A tool mark is a mark made by one object on the surface of another softer object. Although these marks are generally made at the entry point of a burglary, various kinds of tool marks can be found elsewhere, such as fractured knife blades, cut marks on wire, abrasions left on a vehicle, cut marks on a padlock, and machine marks on a metallic surface.

Conclusions:

- Identification
- Elimination
- Inconclusive (can't tell)
- Unsuitable for comparison

Laboratory Contacts

Marysville
2700 116th St NE Suite P
Tulalip WA 98271
(360) 651-6503

Seattle
2203 Airport Way S,
Suite 250
Seattle WA 98134
(206) 262-6020

CODIS
2203 Airport Way S,
Suite 250
Seattle WA 98134
(206) 262-6020

Tacoma
2502 112th St E
Tacoma WA 98445
(253) 538-3207

Latent Prints
3310 Capitol Blvd.
Olympia WA 98501
(360) 705-5988

Vancouver
1401 Kauffman Ave
Vancouver WA 98660
(360) 993-3800

Kennewick
143302 E Law Ln
Kennewick WA 99337
(509) 734-7022

Spokane
580 W 7th St
Cheney WA 99004
(509) 625-5401

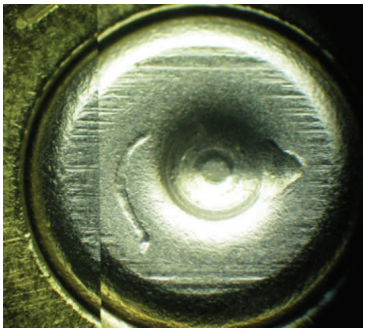
Toxicology Laboratory
2203 Airport Way S,
Suite 360
Seattle WA 98134
(206) 262-6100

NIBIN/IBIS

The National Integrated Ballistic Information Network (NIBIN) has greatly increased the ability of the Firearms Sections to identify incidents in which the same firearm was used. Often, NIBIN can offer new leads in "dead end" cases and reduce the number of unsolved firearm cases. NIBIN is located in the Tacoma and Seattle Crime Laboratories. If there are any questions regarding submissions for NIBIN entry, please contact the Firearms Section at one of the three labs that handle firearms evidence.
The labs can enter images of fired cartridge cases submitted as evidence into the NIBIN database for correlation with existing stored images.
Also, images of test fired cartridge cases from submitted firearms can be entered into the NIBIN database for correlation with existing stored images.

Cartridge cases for NIBIN entry only may be shipped directly to the Tacoma or Seattle Crime Laboratories.

Cartridge cases that require an examination of any type in addition to NIBIN entry must go to the lab to which they would normally be submitted.



Breechface Marks

DNA Y-STR ANALYSIS

The Washington State Patrol (WSP) started accepting DNA cases for Y-STR analysis in October 2009. This testing is male-specific and more sensitive than standard DNA testing. For examples of suitable cases please consult the WSP Forensic Services Guide.

The addition of this service is a great benefit to our customers, who previously had to send cases to private labs for this type of testing. Currently, the service provision is limited as only two labs and a very small number of scientists are qualified to perform this testing at this time, but cases are accepted from all agencies.

To date, 31 cases have been analyzed - 19 sexual assaults and 12 homicides, including several cases >10 years old and 2 post-conviction cases. Interpretable results have been obtained in all but 2 cases and about half of the analyses have resulted in an exclusion of at least one suspect, while the other half have resulted in a match to at least one suspect.

There are stringent guidelines for acceptance of cases for Y-STR analysis:

* All other testing must have been exhausted and unsuccessful.
* A reference sample must be submitted for all suspects.
* The case must be approved by the Spokane DNA Supervisor, Lorraine Heath either directly (509-625-5453) or via the original DNA scientist.

Karen Green—FLSB Employee of the Year

The Washington State Patrol (WSP) Civil Service Employee of the Year for 2009 is Karen L. Green of the Crime Laboratory Division. Ms. Green is the Crime Scene Response Team Coordinator and Forensic Technical Lead.

Karen's career in forensic science began as a DNA/Serology Criminalist for the Texas Department of Public Safety in Austin. She joined WSP as a member of the Tacoma Crime Laboratory in April 1998, where she was a Forensic Scientist in the DNA Section. In the fall of 2003 she joined the Crime Scene Response Team (CSRT), and in September 2007, she was promoted to Forensic Technical Lead and became the full-time CSRT Coordinator.

Green has served as a CSRT primary investigator at dozens of crime scenes, including high-profile cases that were some of the most complex in this agency's history.

Chief John Batiste and Ms. Karen Green

Washington State Patrol

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Service With Humility

FAQs for Firearms

Can you perform elemental analysis of bullets to determine what batch they came from?

No, that type of analysis has been shown to have no valid scientific foundation.

Can you examine hand swabs/swatches to determine if someone has recently fired a gun?

Gunshot residue testing on hand samples is not a forensically significant analysis. It has been shown that a person can fire a gun and not have the residue on their hands. Also, someone else that has not fired a gun but has handled one or been around a gun that has been fired can have the residue on them. Furthermore, a person can get residues on their skin from handling fired ammunition components such as cartridge cases or bullets. Due to these factors, no concrete conclusions can be reached from this analysis.

What can I expect if my cartridge case gets a hit in IBIS?

If you have a cartridge case that gets a hit in IBIS, you will be contacted and asked to resubmit the cartridge case or the firearm (to create new test fires) for the hit to be confirmed by direct microscopic comparison to the cartridge case (or firearm) it hit to. After this analysis, a report will go out to all agencies with evidence related to the hit describing the results of the confirmation.

Operability and Test Fire Examinations?

To focus on complex casework, we ask agencies to test-fire their own firearms for functionality/IBIS entry and submit the test-fires to their firearms lab.

We have developed a video to help agencies do their own operability testing. If you have any questions, please contact your local laboratory.
www.wsp.wa.gov/forensics/crimlabs.htm (*See Quick links****)***

FLSB Odds 'n Ends

- **House Bill 2443**:

This bill, passed by the Washington State Legislature, went into effect on June 10th. The bill conforms the uniform controlled substances act to existing state and federal law. You can view the full bill at http://apps.leg.wa.gov/billinfo/summary.aspx bill=2443&year=2010

- **FLSB Website**

View the WSP FLSB website at **www.wsp.wa.gov/forensics/flsbhome.htm**. At our website, you will be able to find important information related to the FLSB, including contact information for each lab, the Forensic Services Guide, training videos, and copies of previous FLSB newsletters.

- **Training**

The FLSB offers specific training to our customers. If your agency has a need for training and we can help, please contact your local laboratory. We have training videos and presentations to help in training. Recently, we have offered training in several different aspects of our laboratory system:

* Latent Prints collection
* Questioned Documents
* CODIS

- **Universal Precautions**

At all crime scenes, be sure to treat every piece of evidence as if it is contaminated and can cause harm to you! Use great care in handling evidence; wear gloves, masks, etc.

- **Email**

Don't forget to provide your email address when submitting evidence. This allows our staff to contact you if there are questions. You can always contact us, even if you only know our name.
Email: first.last@wsp.wa.gov

Federal .40 Cal