ISP FORENSIC SERVICES

Forensic Services Newsletter

WINTER 2009

Idaho State Police Forensic Services is pleased to announce the training completion of several new analysts. This quarter we have added one new DNA analyst, one new Toxicologist dedicated to Urine Toxicology, and have completed Urine Toxicology screening training for two previously qualified analysts. With six Toxicologists approved to perform Urine Toxicology cases, we have begun training two of these analysts in Blood Toxicology. For the next few months, they will split their time between Blood Toxicology training and Urine Toxicology casework.

Last month we started processing Convicted Offender DNA Database samples in Meridian. After the completion of an outsource grant several years ago, no new samples have been entered into the database. ISP has now obtained equipment and trained personnel to process the samples at our lab. The first samples have been processed and will be uploaded to the database soon. Our hope is that agencies will see increased "hits" to unsolved cases as more samples are added to the Idaho State database.

AFIS

Earlier this year ISP Management decided that Forensic Services would take responsibility for searching latent prints in the AFIS system that were obtained while working a forensic case. These searches were previously performed by the ISP Bureau of Criminal Identification (BCI), with any hits being confirmed by ISP Forensic Services Latent Print Examiners. The change allows the ISP Latent Print Examiners to perform all the work on a forensic case. ISP customers (submitting agencies) will experience no change in submission or reporting. BCI will continue to perform all the AFIS searching for cases submitted solely for that purpose, and ISP Forensic Services will continue to verify AFIS "hits" generated by BCI. Agencies that have trained latent print examiners may perform their own "hit verifications" by contacting BCI Director Dawn Peck.

WHAT'S NEW

ISP Forensics Website

It's Back—In the Fall 2009 issue we discussed the discontinuation of NIBIN database entry in the Coeur d'Alene Laboratory. The equipment was not moved to the new facility. Recently, the ATF granted our Firearms Examiner access to the terminal used by the Montana State Lab. Entry should begin again in early January 2010. We are very grateful to the Montana State Lab for offering this service and performing technical review of Firearms and Toolmark cases. It is the only way we are able to offer these services to Idaho agencies.

ISP Forensic Services Facts

In 2009 ISP Forensic Laboratories provided training for local and county law enforcement in evidence collection, crime scene photography, crime scene panoramic 3-D photography, firearms safety, breath alcohol testing, Lifeloc instrument calibration, forensic scientist certification, DNA, Toxicology, forensic laboratory auditing, and latent print processing.

UPCOMING TRAINING

Course	Location	Dates	Contact
Breath Testing Specialist	ISP R1 Building	4/1-4/2	Register
Breath Testing Specialist	ISP R1 Building	8/26-8/27	Register
Breath Testing Specialist	POST	3/4-3/5	Register
Breath Testing Specialist	POST	6/3-6/4	Register
Breath Testing Specialist	POST	9/9-9/10	Register
Breath Testing Specialist	POST	12/2-12/3	Register
Breath Testing Specialist	Pocatello	May	Register
Breath Testing Specialist	Pocatello	October	Register

* The first day of all BTS classes is Alcosensor/Lifeloc and the second is Intoxilyzer 5000/EN .

Did you Know?

ISP Forensic Services has a collection of close to 300 firearms that have been acquired by seizure and donation. These weapons are mainly used for comparisons and training.

ISP FORENSIC SERVICES

FOCUS ON

Services Offered

- Type and caliber determinations: The examination of fired bullets to determine caliber and possible firearms.
- Function testing: Determining if a firearm functions correctly.
- Bullet and cartridge case comparisons: Determining if a bullet or cartridge case was fired from a specific firearm.
- Tool mark comparisons: Determining if a tool mark was made by a specific tool.
- Distance determinations: Determining the muzzle to target distance of a firearm to its target.
- Ejection pattern determination: Determining where a firearm ejects spent cartridges.
- Serial number restoration: Restoring a serial number that has been obliterated.

Courtesy L.A. Times

Courtesy Photobucket.com

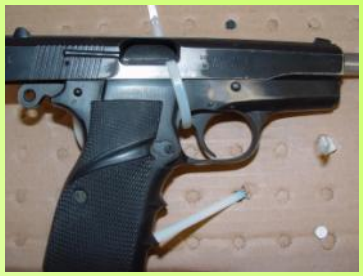
Courtesy spiservices.net

GOALS FOR 2009

- **Move and recalibrate at the new R1 combined facility**
- **Identify a permanent solution for technical case review**
- **All Firearm/Toolmark cases turned around in under 60 days.**

Proficiency Testing

Each year the ISP Firearms/ Toolmark analysts take tests to demonstrate proficiency in serial number restoration, distance determination, firearm analysis, toolmark analysis, and NIBIN entry. Proficiency testing is an important part of the laboratory quality system. Proficiency testing is a requirement of an accredited laboratory and a mandatory element in individual scientist certification. In this proficiency test example, the three serial numbers on this donated handgun were ground off to obliterate the serial numbers. The ISP analyst restored most of all three serial numbers.



Packaging and Shipping Firearms

Render the Firearm Safe

The Forensic Laboratory will not accept loaded firearms except in exceptional circumstances. All firearms should be unloaded and physically checked to make sure they are safe.

Secure the Action

- Do not run a zip tie down the barrel. This could destroy trace evidence.
- Semi-automatic pistols can be secured by running a zip tie through the magazine well and out the ejection port.
- Double action revolvers can be secured by opening the cylinder and zip tying the hammer to the frame.
- Single action revolvers can be secured by removing the cylinder.
- Bolt action rifles can be secured by removing the bolt.

Package in a box or gun case

- Firearms tear through paper bags or evidence envelopes.
- If using a gun box tie the firearm securely to the bottom with multiple zip ties. We often see zip ties rip the cardboard when only using one or two, this allows the gun to slide around in the box and the guns may be damaged and evidence destroyed. Make sure the box is well sealed with packing tape covered with evidence tape.
- If a scope or other fragile accessory is present consider removing it if it is not relevant to the case.
- Make sure the box is appropriate for the size of the firearm.
- Firearms in soft cases can be placed directly into a box once they are rendered safe.

Determine what analyses are required

- Firearms testing is usually the last form of testing done since it may destroy fingerprints and DNA.
- If multiple testing is required contact the relevant section to see where to send the firearm first.

Include everything necessary for the analysis

- Make sure the magazine, cylinder or bolt are included with the evidence.
- Distance determinations require the same type of ammunition used in the incident.

Shipping

UPS: handguns must go by Next day air and are only accepted at the UPS customer center (not the UPS Store) or from a daily pick up account. Long guns can be shipped ground and must ship from the UPS customer center, daily pickup account or UPS on call pick up. http://pe.usps.com/text/dmm300/601.htm#wp1065404

FedEx: guns must go priority overnight and cannot be put in a drop box. http://fedex.com/us/services/terms/

(Notice exemption for law enforcement 11.7.1)

For more information on firearm packaging

FIREARMS AND TOOLMARKS

ISP FORENSIC SERVICES

A Question of Caliber

When you find a 380 ACP or 7.62 x 39 cartridge case at a scene you would be justified to think that you are looking for a 380 semi-automatic pistol or an AK-47/ Sks type rifle, but that is not necessarily the case. Most people are aware that some revolvers can fire several different calibers. Revolvers that fire the .357 Magnum cartridge can also fire the 38 Special. 44 Magnum revolvers can fire .44 Special. .22 Long Rifle revolvers can fire .22 Long and .22 Short. People may not be aware that some revolvers can do a great deal more. Some 38 Special/.357 Magnum revolvers can fire 9mm Parabellum when using half- moon clips. The Judge revolver from Taurus can fire .410 gauge shotgun shells as well as .45 Colt pistol cartridges. The Phillips & Rogers Medusa Model 47 revolver can fire 25 different cartridges in the .357/38/9mm range. Phillips & Rogers also produced conversion cylinders for Ruger pistols to allow them to do the same thing as well as a revolver which fired the 7.62 x 39 cartridge. The Thompson /Center Contender single shot pistol is available in a wide variety of pistol and rifle calibers.

Some semi-automatic pistols can also fire several calibers. A pistol chambered for the 9mm Parabellum can also fire the .380 Auto (9mm short), although a misfire may result and the case will most likely not eject. The forensic lab has had 9mm pistols submitted with magazines loaded with .380 Auto cartridges. A 9mm Parabellum cartridge can be fired in a pistol chambered for .40 Smith and Wesson. This will result in an obviously bulged cartridge case. Some semi-automatic pistols can be converted to a different caliber with simple modifications. The Glock Model 27 .40 S&W pistol can be converted to fire .357 Sig or 9mm Parabellum by just replacing the barrel.

Sabot rounds are available that allow sub caliber bullets to be fired in larger caliber firearms. A fired bullet with no apparent rifling would be an indicator that a sabot round was used. Inserts can be purchased for shot guns that allow you to fire a number of pistol cartridges. These inserts are shaped like shotgun rounds and can be used in both single shot and pump shotguns.

Gunshot Residue Tests

There are two types or gunshot residue tests (GSR) that are performed: primer residue and powder residue.

Powder residue is a test that is performed to determine the approximate distance the muzzle of a firearm was from a target when it was fired. For most weapons powder is not deposited beyond 5 feet from muzzle to target. The Idaho State Police forensic lab offers this service. In order to have this test performed the weapon and identical ammunition must be submitted to the lab along with the target (most often an article of clothing). With the permission of the coroner, the article of clothing should be removed before the body is moved. The target should be photographed with and without a scale, handled carefully, dried, and then packaged in paper.

The second type of GSR test is for primer residue on a subject's hands. The test for primer residue on a subject's hands is done by swabbing or using a special tape lift. A positive test for primer residue indicates that the subject recently fired a firearm, recently handled a firearm that had been recently fired, was recently in the vicinity of a firearm that was fired, or was recently handled by someone who recently handled or fired a firearm. There are two types of tests for primer residue. One method uses atomic absorption and tests for trace elements found in primers, barium, and antimony. Barium and antimony are trace elements but they are also found in a number of occupational and environmental conditions. The other testing method uses a scanning electron microscope (SEM). The test that utilizes the SEM will render a specific conclusion, as to the presence of primer residue. The SEM test is definitive for primer residue but is more expensive than atomic absorption. The SEM test requires the sample be collected with the tape lift disks. Primer residue is very fragile and will be lost if the subject washes his or her hands and can be wiped or blown off. A negative test for primer residue does not mean the subject did not fire a weapon, it could mean there was not a detectable level of primer residue deposited on the hands or the residue was removed. The Idaho State Police Forensic lab does not offer either of the primer residue services (atomic absorption or SEM).

The Rise and Fall of NIBIN in Idaho

In 2002 the Coeur d'Alene forensic laboratory began offering the entry of bullets and cartridge cases into the National Integrated Ballistic Information Network or NIBIN. This service involved entering bullets and cartridge cases from crime scenes or test fires from firearms submitted to the laboratory into a searchable data base maintained by the federal government. Exhibits were routinely searched against a regional data base which included submissions from Idaho, Washington, Oregon, Montana, Alaska, Hawaii, and Guam. Other Regions could be searched if requested. As of June 2009, 593 bullets and 910 cartridge cases had been entered into the system. These entries resulted in 6 hits. Two hits between entries from Coeur d'Alene, Idaho and Spokane, Washington, and four between entries from the Nampa/ Caldwell area of Idaho. In July of 2009, the Coeur d'Alene Forensic laboratory moved into the new ISP Region 1 Linda Huff Memorial Building. Moving the NIBIN system to the new building would have cost $11,000. In addition, Idaho was not meeting the number of required entries into the system per month set by the ATF due to the low number of submissions. The system was not installed in the new building. The Idaho State Police Forensic Laboratory has worked out an agreement with the ATF and the Montana State Lab to continue to make this service available to the Idaho law enforcement community. Entry and searching will still be performed by trained and proficiency tested ISP examiners.

ISP FORENSIC SERVICES

CONTACTS

Meridian Lab

700 South Stratford Ste 125
Meridian, Id 83642
208.884.7170
Fax 208.884.7197

Lab Manager
Donna Meade

Pocatello Lab

209 E. Lewis
Pocatello, Idaho 83201
208.232.9474
Fax 208.232.3697

Lab Manager
Shannon Larson

Coeur d'Alene Lab

615 W. Wilbur Suite B
Coeur d'Alene, Idaho 83815
208.209.8700
Fax 208.209.8612

NEW Contact Info

Lab Manager
Anne Nord

ISP Forensic Services Response Teams

ISP Forensic Services continues to respond to requests for help processing **Clandestine Laboratories**. ISP Chemists and Latent Print Examiners receive continuing education, physicals, APR fit testing, and recertification each year. Trained Clan Lab responders are available at all three regional ISP labs.

ISP Forensic Services maintains a trained **Crime Scene Response Team** to support local law enforcement. Response is available from any of the three regional ISP labs. The lab can provide assistance in evidence detection and collection, photography, general scene processing, biological fluid detection, and many other services.

ISP Forensic Services provides on-site **Latent Print** services in support of local law enforcement. The Latent Print Unit processes many Marijuana grow operations and other crimes around Idaho. The latent print examiners are based in Meridian.

FEEDBACK

ISP Forensic Services welcomes your feedback, questions, and kudos.

I want to commend Jeremy Johnston. I was at a jury trial (DRE) with him recently and he is a great example of the professionalism your dept I'm sure wants to convey. He spoke at a level the jurors understood and could identify with. He has always been a professional and a pleasure to deal with. ***—Jeremy is an exceptional employee and we appreciate all the work he does for the breath alcohol program! We also appreciate the positive feedback about our program.***

The issues we are all facing, limited manpower and the case work volume increasing. I have evidence in the lab on other cases, and the turn around time is impacted by the limited number of DNA scientists, not because the two we have are not excellent, but because the amount of work they have has created delays in processing evidence.***—We are happy to report that we recently signed off a third DNA analyst and have started processing Convicted Offender samples. We are putting the finishing touches on the training for a fourth DNA analyst, a database scientist, and a database reviewer.***

Our wait time for a Blood (Alcohol) result is improving. It used to take 5-6 weeks for results, now closer to 4 weeks. This is very important for the case. ***—Currently, the average turnaround for a blood alcohol case is ten to eleven days. Our Toxicology Analysts are doing amazing work!***

Great people. I appreciate all of the region 1 lab staff and think that they do an awesome job. ***—We agree that the region 1 laboratory staff does fantastic work. They constantly amaze and impress us.***

I have never had a lab report from you questioned. Reputation is everything. ***—We appreciate your support and your kind words. We are very committed to high ethical and professional standards.***

The ISP Forensic Services, as well as the staff, have never been anything but exceptional in the service they provide and the work they perform.***—We appreciate the opportunity to work for the citizens of Idaho.***

Submit your questions

If you have questions you would like answered in future editions of this newsletter, please email them to us. Please be concise and specific.