



# The Lab Report

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December 2014

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## The Lab Report Wrap Up - 2014

As we all wrap up 2014, the Nebraska State Patrol Crime Laboratory would like to focus on not only the upcoming year, but also on recapping the past year in numbers. In the final quarterly issue of The Lab Report for 2014, we are providing year-end statistics for the lab. These statistics include the total number of case assignments per unit/section received for the year, the total number of agencies who submitted cases to the NSP Crime Laboratory in 2014, total number of presentations/training provided, the total number of court appearances by laboratory staff, and database (NIBIN, CODIS, & AFIS) statistics!

We will also provide current analytical unit/section case assignments and approximate turnaround times, information regarding FREE training opportunities across the state courtesy of the Crime Lab Road Show, cessation of NIBIN services provided by the NSPCL, Firearm/Toolmark section analytical capabilities as of 1/1/2015, and an update on the construction progress of our new facility.

If you have any questions/concerns regarding the topics related to this issue of The Lab Report, please do not hesitate to contact us (laboratory staff contact information - pg. 10).

Enjoy!

Amy Weber (Firearm/Toolmark Section Analyst - editor, The Lab Report)

## The Backlog Corner

(\*approximate turnaround times are calculated for routine cases only - RUSH cases not included)

**Biology Unit: 234 assignments (approx. 6 month turnaround time)**

**Physical Sciences Unit:**

**Firearm/Toolmark cases: 14 assignments (approx. 2 month turnaround time)**

**Footwear/Tire cases: 3 assignments (approx. 1 month turnaround time)**

**NIBIN: 25 assignments (approx. 1 month turnaround time)**

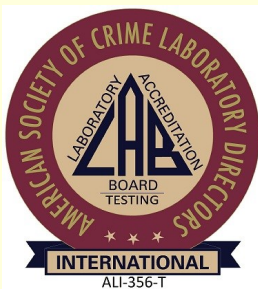
**Latent Fingerprints Section: 66 assignments (approx. 4 month turnaround time)**

**Chemistry Unit:**

**Controlled Substances: 780 assignments (approx. 4 month turnaround time)**

**Toxicology: 162 assignments (approx. 4 month turnaround time)**

**Trace: 4 assignments (approx. 1.5 month turnaround time)**



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## NSP Crime Laboratory 2014 Statistical Recap

As the 2014 year comes to a close, the NSP Crime Laboratory would like to provide year-end statistics for the agencies we serve across the state of Nebraska. In addition to scientific evidence analysis, the seventeen staff analysts provide expert witness testimony for the court system (state and federal levels) as well as provide educational presentations/training free of charge throughout the state! Listed below are the NSP Crime Laboratory year-to-date totals (current as of December 31, 2014). The “**Assignments Received/Submitted**” column refers to the number of submissions to the lab in 2014. The “**Reports Written/Assignments Completed**” column refers to the number of 2014 submissions completed.

	Assignments Received/Submitted in 2014	Reports Written/ Assignments Completed in 2014
	5194	5006
<b><u>Chemistry Unit</u></b>		
Controlled Substances	3046	2951
Toxicology	583	487
Trace Evidence	28	30
<b><u>Biology Unit</u></b>		
Biology Casework	718	635
<b><u>Physical Sciences Unit</u></b>		
Firearms/Toolmarks (to include Footwear/Tire cases)	122	147
NIBIN	313	382
Latent Fingerprints	374	363
Questioned Documents	10	11



**Total Number of Different Agencies Served by the Lab in 2014: ~ 150**

**NSP Crime Laboratory 2014 Statistical Recap (continued)****Court Appearance/Testimony Stats**

**Total Court Appearances by Lab Staff in 2014: 66**

**Total Miles Travelled for Court in 2014: 14,590**

**Number of Counties Where Testimony was Provided in 2014: 22**

**Number of Overnight Stays to Provide Testimony in 2014: 12**

**Database Statistics for 2014 (current as of 12/31/2014)****NIBIN (National Integrated Ballistics Information Network)**

**NIBIN Hits: 3**

- **Number of Firearms Entered into Database: 426**
- **Number of Cartridge Cases Entered into Database: 577**

**CODIS (Combined DNA Index System)**

**CODIS Hits: 63**

- **Offender Samples Received: 3712**

**AFIS (Automated Fingerprint Identification System)**

**AFIS Cold Hits: 103**

- **AFIS Latent Prints Searched: 402**

**Presentations/Trainings Provided by NSPCL**

**Number of Presentations/Trainings Provided by NSPCL Staff: 35**

**Approximate Number of Presentation/Training Attendees: > 1500**



## Training

Knowledge  
useful abilities  
backbone of co  
quired for a tr  
today

### Biology Unit

*Jason Linder (Mgr.)*

*Jeff Bracht*

*Hillary Duin*

*Brandy Porter*

*Heidi Young*



## FREE Training: 2015 Crime Lab Road Show

The NSP Crime Lab staff will be going on the road again in 2015 to provide **FREE training** to all of the law enforcement agencies in the state! Below are the details of the training to include: locations, dates/times, training topics, and registration information.

### DNA Evidence: DNA Collection, Processing, and its Presentation in Court

**Provided By:** Representatives from the NSP Crime Laboratory Biology Unit and the Nebraska Attorney General's Office

### Dates/Locations:

February 5, 2015	Norfolk	Northeast Community College
February 9, 2015	Scottsbluff	Western NE Comm. College
February 10, 2015	North Platte	Mid-Plains Comm. College (North Campus)
February 11, 2015	Grand Island	NE Law Enforcement Training Center
February 12, 2015	Lincoln	Southeast Comm. College
February 13, 2015	Omaha	DEA Facility (Emerald Pointe Bldg)

**Time:** 0900-1600 with a break for lunch

**Who Can Attend?:** Any law enforcement officer in Nebraska

**Cost:** **FREE!!!!** Class sizes will be limited (maximum 30 people)

**Continuing Education Credit:** Number of CLE hours is currently pending approval from the Crime Commission.

If you or someone you know is interested in attending, please contact **Jason Linder** ([Jason.Linder@nebraska.gov](mailto:Jason.Linder@nebraska.gov)) or **Pam Zilly** ([Pam.Zilly@nebraska.gov](mailto:Pam.Zilly@nebraska.gov)) or call the NSPCL main phone number (402-471-8950) for further information and to register for class!

## Cessation of NIBIN Services at the NSP Crime Laboratory

The ATF has recently reevaluated their approach to the National Integrated Ballistics Information Network program (NIBIN) and are making many changes to shift the focus of the program and place the equipment in different locations. **As a result of these changes, starting on January 14, 2015, NIBIN services will no longer be provided by the Nebraska State Patrol (NSP) Crime Lab. We will cease accepting new NIBIN evidence as of January 1, 2015.**

All firearms and ammunition components that are currently at the NSP Crime Lab awaiting NIBIN entry will be prioritized to get them entered into the network prior to the January 14, 2015 cut-off-date. **Items submitted to the NSP Crime Lab after January 1<sup>st</sup>, solely for the purposes of NIBIN entry, will be returned to the submitting agency without examination.**

**If you would like to explore other options for NIBIN entry, contact the ATF Omaha Field Office at 402-952-2605.**

While the NSP Crime Lab will no longer be able to provide NIBIN services, our Firearm/Toolmark Section will continue to provide all other firearm-related examinations currently offered. See pages 6-7 in this issue of The Lab Report for a listing of the services provided by the NSP Crime Lab Firearm/Toolmark Section.

If you have any questions or concerns, please contact the NSP Crime Lab at 402-471-8950.



*Firearm/Toolmark*  
*Section*

*Kent Weber (Sup.)*  
*Amy Weber*  
*Sarah Zarnick*



## Firearm/Toolmark Section Analytical Capabilities (1/1/2015)

Although the NSP Crime Laboratory will no longer be providing NIBIN entry/correlation services for the state of Nebraska, ALL other forensic analysis relating to firearms, fired/unfired ammunition components, serial number restoration, range estimation analysis, toolmark analysis, and footwear/tire impression will still be performed! Below is an updated list of analytical services performed by the NSPCL Firearm/Toolmark Section:

### Fired Bullet Analysis

- Determination of caliber and/or class characteristics
- General Rifling Characteristic (GRC) analysis to determine possible makes/models of firearms responsible (investigative aid)
- Comparison to other evidence bullets
- Comparison to test fired bullets from submitted firearm
- Potential identification or exclusion from suspect firearm

### Cartridge Case/Shotshell Analysis

- Comparison to other evidence cartridge cases/shotshells
- Comparison to test fired cartridges/shotshells from submitted firearm
- Interpretation/identification of headstamp & caliber (e.g. foreign/military headstamps)

### Firearm Function & Identification

- Potential identification or exclusion from suspect firearm
- Basic operation & troubleshooting (broken parts, obstructions, testing of reported scenarios, etc.)
- Silencer/Suppressor construction & component analysis; suppressor sound testing
- Determine modifications (full auto conversions, trigger/sear mods, etc.)
- Critical measurements (barrel length, overall length, etc. as per State/Federal gun laws)
- Trigger pull testing (light or malfunctioning triggers, etc.)
- Test fires for basic function & full auto operation
- Test fires for casing/bullet comparison
- Identify firearm type/make/model/importer through markings, measurements, etc. (useful for ATF traces & stolen gun checks)
- Ejection patterns (requires thorough documentation of case details, crime scene details, and use of suspect gun)

### Firearm/Toolmark Section

*Kent Weber (Sup.)*

*Amy Weber*

*Sarah Zarnick*



## Firearm/Toolmark Section Analytical Capabilities (1/1/2015)

### Serial Number Restoration (useful for ATF traces and stolen gun checks)

- Magnetic Particle Inspection
- Chemical etching & enhancement
- Locate hidden serial numbers or cross-referenced part numbers

### Gunshot Residue/Muzzle to Target Range Estimation

**[GSR residues from hands are not tested at this laboratory]**

- Visual & stereoscopic pattern/powder analysis on clothing/other target
- Infrared (IR) visualization/capture of gunshot residue patterns
- Chemical enhancement of residue patterns on clothing/other target
- Chemical enhancement for presence of lead or copper (bullet wipe) around perforation on clothing/other target
- Shot pattern analysis on clothing/other target

### Toolmark Analysis

- Tool to impression comparisons (padlocks, pried items, cut wire/fence, doorknobs forced with gripping tool, etc.), potentially to identify or exclude suspect tool
- Produce toolmarks with suspect tools for comparison to evidence toolmarks
- Fracture match of fragmented items (tools, knife blades, keys, vehicle parts, lock pieces, etc.)
- Knife (or cutting tool) comparisons to cut marks in tire, cables, etc.

### Footwear Impression Analysis

- Determination of physical size and pattern correspondence
- Comparison between photos, casts, lifts, shoes, etc. for potential identification or exclusion of suspect shoe(s)
- Produce test prints/impressions for comparison to evidence impressions
- Identify brand/style of shoe for questioned impressions

### Tire Tread Impression Analysis

- Determination of physical size and pattern correspondence
- Comparison between photos, casts, lifts, tires, etc. for potential identification or exclusion of suspect tire(s)
- Produce test prints/impressions for comparison to evidence impressions
- Identify brand/style of tire from questioned impressions





### Update: New NSP Crime Laboratory Facility

As the construction of the new NSP Crime Laboratory facility at NW 39th St and Air Park Rd continues into 2015, we will periodically share updates in future issues of The Lab Report of the construction progress.



View of the front of the lab from the northeast corner



View of the east side of the lab



**Update: New NSP Crime Laboratory Facility**



**View of the front of the lab from the northwest corner**



**View of the northwest side of the lab with attached evidence delivery sally port**





**Laboratory Director:**  
**Pam Zilly**  
[Pam.Zilly@nebraska.gov](mailto:Pam.Zilly@nebraska.gov)

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 Crime Lab  
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(main) 402-471-8950  
 (fax) 402-471-8954

**Hours of Operation:**  
 Monday-Friday  
 8am—5pm

**Evidence Receipt Hours:**  
 Monday-Friday  
 9am-4pm

To contact the crime lab  
 with general laboratory  
 questions, call the main  
 phone number or email  
 Vicki Hopkins at:

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**The Lab Report Editor:**  
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## Nebraska State Patrol Crime Lab Staff Contact Information:

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(Manager) VACANT

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 Bridget Driver

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 Meggan Macomber

#### Trace

Mike Auten

#### Toxicology

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#### Biology

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