



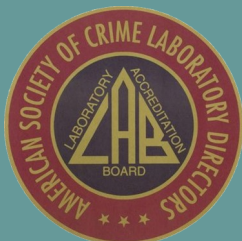
# The Lab Report

Volume 3, Issue 1

April 2013

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## The Lab Report Wrap Up - 2012

In the July 2011 issue of The Lab Report, we covered the three state and national databases utilized at the Nebraska State Patrol Crime Lab (CODIS, NIBIN, and AFIS); providing general descriptions of usefulness for statewide submitting agencies as well as proffering guidelines for database evidence submission. In this issue, we will present an update regarding their use and effectiveness regarding case investigations.

In addition to the above featured articles, we will provide "Save the Date" training information concerning topics covered for 2013 Crime Lab Road Show, community educational outreach, an update on a proposed Nebraska AFIS operating system upgrade, helpful hints on evidence, analytical section backlog information, and our analyst Spotlight on Forensics!

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/Tool Mark Section Analyst - editor, The Lab Report)

## The Backlog Corner

Biology Unit: 175 assignments (approx. 5 month turnaround time)

Physical Sciences Unit:

Firearm/Toolmark cases: 47 assignments (approx. 9 month turnaround time)

NIBIN: 131 assignments (approx. 9 month turnaround time)

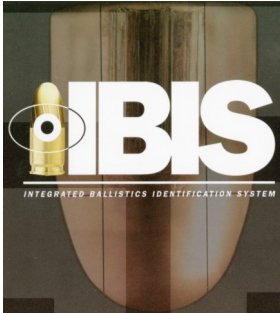
Latent Fingerprints Section: 37 assignments (approx. 1 month turnaround time)

Chemistry Unit:

Controlled Substances: 767 assignments (approx. 3.5 month turnaround time)

Toxicology: 53 assignments (approx. 2.5 month turnaround time)

Trace: 5 assignments (approx. 2 month turnaround time)



## NIBIN (National Integrated Ballistic Information Network)

The Nebraska State Patrol Crime Laboratory has been actively participating in the NIBIN program since 2002. There have been **40 cold hits** since the inception of program. The newest of our three state and national databases, NIBIN operates along the lines of CODIS for DNA evidence and AFIS for fingerprint evidence. Administered by Bureau of Alcohol, Tobacco, Firearms and Explosives (BATF), NIBIN establishes case linkages through the entry of firearm-related evidence into a National database for correlation. **Evidence includes test fires from submitted firearms, as well as fired cartridge cases and bullets from crime scenes.**

Unlike CODIS, there is no state statutory requirement mandating participation in this program. The number of submissions each year fluctuates greatly due to what evidence law enforcement agencies choose to submit. The NSP Crime Lab analysts have devoted a great deal of effort toward educating agencies concerning the benefits of using the NIBIN database. As a result, in 2007/2008 we received a large influx of submissions from items that had previously been sitting stagnant in evidence rooms. With the continued increase of evidence submissions, the NSP NIBIN database has grown exponentially and our submitting agencies are starting to reap the benefits. The benefits of NIBIN use are seen in multiple case linkages involving firearm-related evidence where there may have been no previous case connection.

The below graph depicts the number of known firearms test fired and entered into the database as well as the total number of cartridge cases and bullets entered into the database over the span of the last five years.

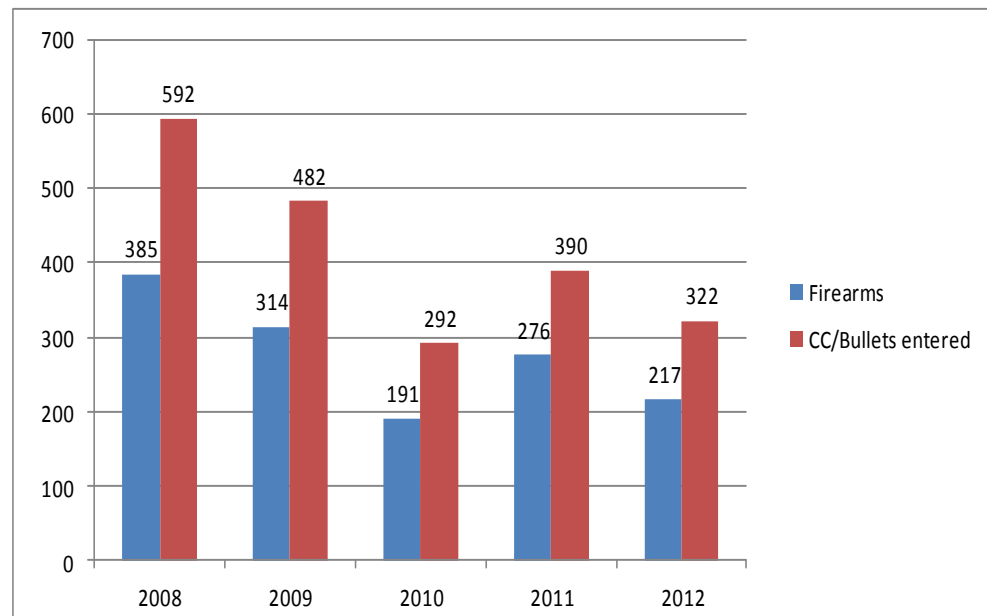
### Firearm / Toolmark

#### Section Analysts

**Kent Weber (Sup)**

**Amy Weber**

**Sarah Zarnick**

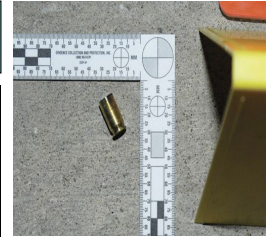
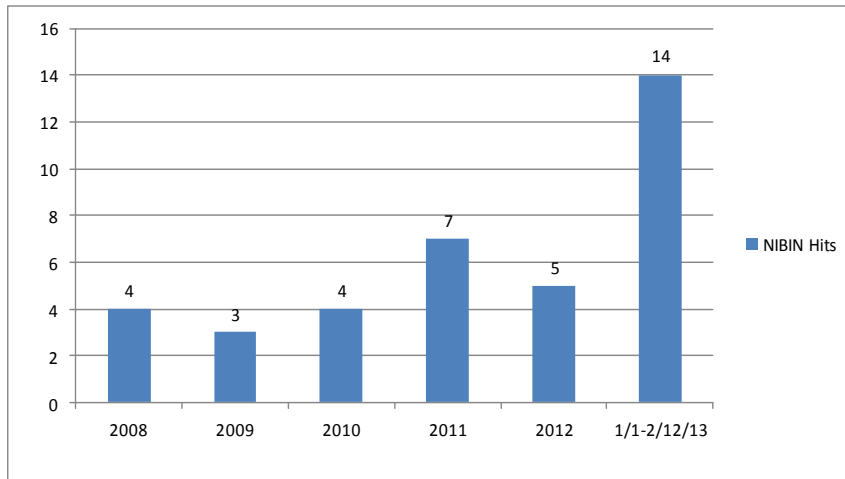


2008 through 2012 total Bullets/CCs entered: **2078**

2008 through 2012 total firearms entered: **1383**

## NIBIN (National Integrated Ballistic Information Network)

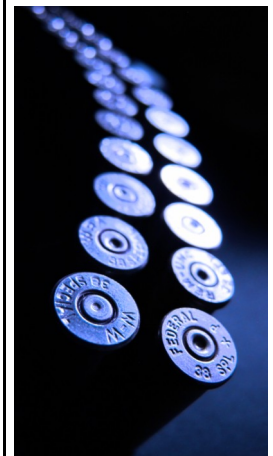
Fourteen (14) NIBIN hits have already been recorded in 2013 between January 1, 2013 - February 12, 2013. The below graph depicts the number of NIBIN hits recorded and reported to the BATF since 2008.



## Notable Nebraska NIBIN Hits

A group of hits established through NIBIN revealed **one firearm** was involved in **at least four Nebraska drive-by shooting cases**, spanning the years 2009 - 2012. As of this time, the firearm has not been recovered/submitted. **However, a list of possible suspect firearms that could have fired the submitted evidence was developed through further lab analysis and was sent to the submitting agency for use in the investigative process.** Additionally, lab staff are watching for submitted firearms from that generated list in order to ensure a timely resolution to those outstanding cases should the correct firearm be recovered.

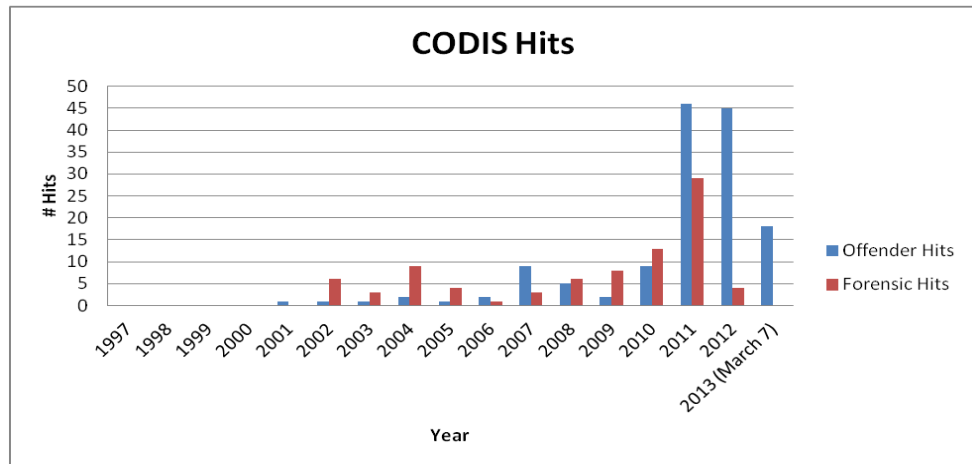
A drive-by shooting occurred in August 2012, leaving behind fired bullets and cartridge cases. A suspect had been named due to previous events, however no other leads existed. Lab analysis revealed that only a single make/model of firearm could have been used in the shooting: a Hi-Point pistol. That information was provided to the submitting agency and ammunition evidence was entered in NIBIN. Two more drive-by shootings occurred in between September and November of 2012. Other than general vehicle descriptions and suspicions, the submitting agency had no solid leads on those shootings. Fired ammunition from both of the latter incidents were entered in NIBIN and were linked to the same firearm from the August incident. In late December 2012, the agency made contact with a possible suspect from the earlier shootings and found him in possession of a Hi-Point firearm. **Lab analysis confirmed that the recovered firearm was responsible for all three drive-by shootings.** Incidentally, the suspect in these drive-by shootings was also a suspect in a separate violent crime investigation involving different firearms.





## CODIS (Combined DNA Index System)

The Combined DNA Index System (CODIS) serves as an invaluable investigative tool for our law enforcement agencies across the state. **In 2012 the Nebraska State Patrol Crime Laboratory recorded its 200<sup>th</sup> hit through CODIS.**



### Biology Unit Analysts

Jason Linder (Mgr)

Katie Rector (CODIS Sup)

Jeff Bracht

Christel Davis

Hillary Duin (CODIS tech)

Melissa Kreikemeier

Brandy Porter

Heidi Young

**Offender Hit:** Our state offender's DNA matched to DNA recovered from evidence and the investigation was aided

**Forensic Hit:** Two DNA profiles from evidence matched each other and both of the investigations were aided.

## Notable Nebraska CODIS Hits

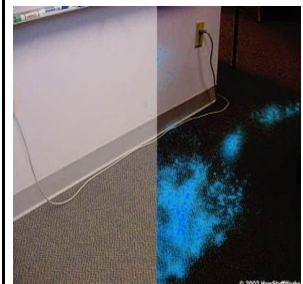
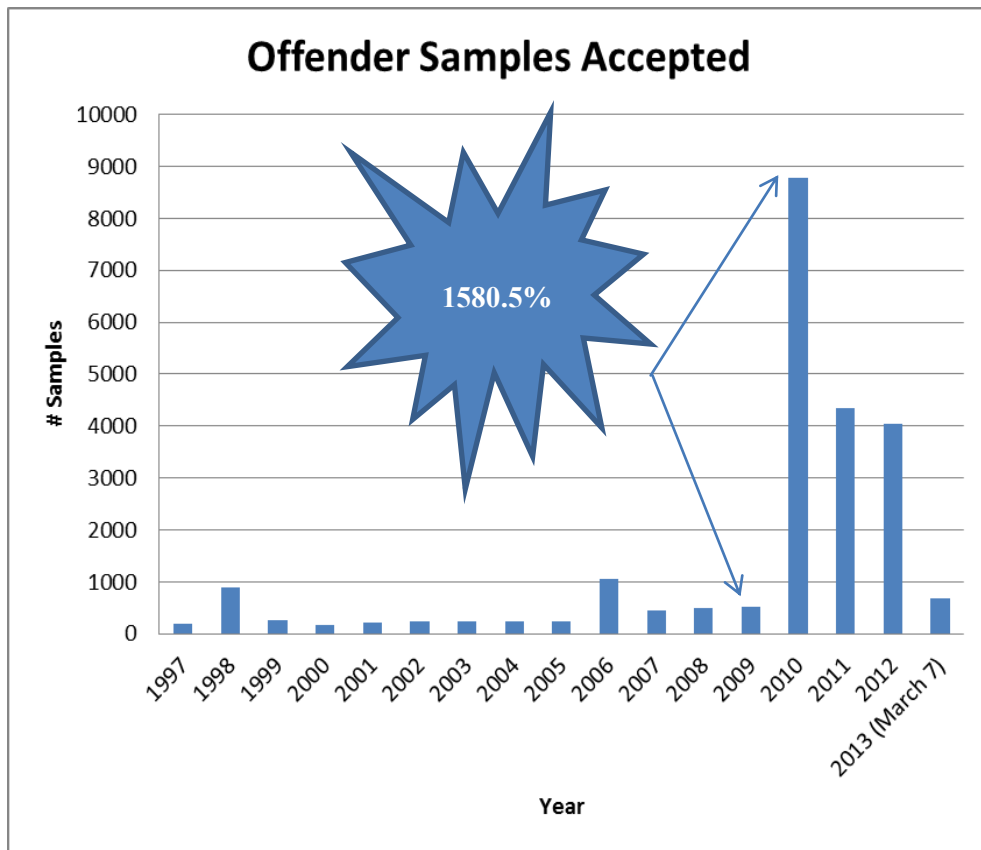
- ✍ In 2013, two Nebraska State Offender samples were able to aide two out-of-state sexual assault cases from the 1990s.
- ✍ In 2012, a 1997 sexual assault with no suspect previously identified was aided. CODIS provided the agency with a possible suspect name.
- ✍ In 2012 CODIS identified a possible suspect for a 2011 burglary. The law enforcement agency already had a suspect named, but the individual identified by CODIS was not the named suspect.
- ✍ From 2008-2010, a series of 10 burglaries were linked together in CODIS. One of the law enforcement agencies identified a suspect, which was able to aid the other investigations since CODIS previously identified them as serial crimes.
- ✍ A 2008 child sexual assault with no suspect was aided by CODIS when it hit to a 2004 case sample that had a suspect identified.

### CODIS Backlog Update

In 2010, the Sex Offender Registration Act and the DNA Identification Information Act were amended to allow for the collection of DNA samples from all sex offenders and convicted felons. **This legislation lead to a 1580.5% increase in the number of state offender samples received from 2009 to 2010.**

With the increase in the number of samples being received, the Nebraska State Patrol Crime Lab **had** approximately a 9-12 month backlog. **With the implementation of a new workflow, and the dedication of the Biology Unit, we are pleased to announce that the current backlog is approximately 1 week.**

The state of Nebraska currently has over 20,000 offender profiles and approximately 1,100 forensic profiles in CODIS. As the database increases in size so does the potential to provide our law enforcement agencies with investigative leads.





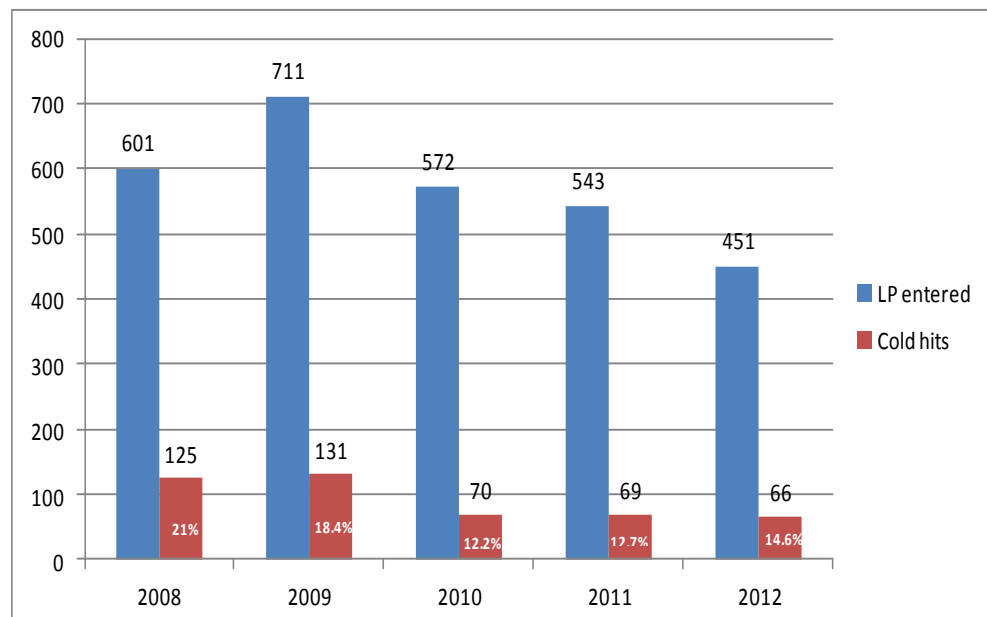
Latent Fingerprint  
Section Analysts

Mariana Ward (Sup)  
Steve Burke  
Bridget Driver

### AFIS (Automated Fingerprint Identification System)

The below graph depicts latent prints entered and the resulting cold hits that have occurred over the last five years (2008-2012).

Out of the 451 value latent prints submitted for Nebraska AFIS search in 2012, **66 resulted in cold hits** - a hit rate of 14.63%. The percentage of hits for 2012 saw an approximate 2% increase from hits recorded in 2011.



### Notable Nebraska AFIS Hits

- ✍ A burglary that occurred in 2010 resulted in three value latent impressions from processed scene evidence. Originally, only one of the three value impressions mentioned above was identified to a suspect through an AFIS Cold Hit. However, in 2012, the AFIS Reverse Verification process resulted in AFIS cold hits identifying a second suspect on the remaining two impressions.
- ✍ In 2012 an agency submitted a burglary case, stating that a State of Nebraska building had been ransacked and several items were stolen in the process. A State of Nebraska vehicle that was parked near the building had also been broken into. No suspects were listed at the time of evidence submission to the lab. The AFIS search resulted in two AFIS cold hits.

## Update: Nebraska AFIS System Operations Upgrade



As technology evolves, the Nebraska State Patrol strives to identify means for improvement of the systems housed and managed by the agency. The Nebraska Automated Biometric Identification System (AFIS) is currently under review due to the fact that the present system is in need of updated system operations.

Currently, the statewide Nebraska AFIS system operates as a Printrak BIS 9.7 system - a system that was last updated over five years ago. The Nebraska AFIS system currently contains 900,000 fingerprint records, 370,000 palm sets, and 14,600 unsolved latent impressions. These numbers continue to grow on a daily basis!

The need to upgrade the Nebraska AFIS operating system is two-fold:

- To accommodate system expansions.
- To incorporate new advances in technology.

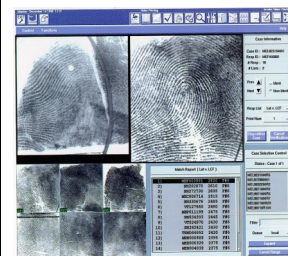
The Nebraska State Patrol has been actively gathering information to utilize during the upgrade from current AFIS users out in the field, potential users, members of the FBI Next Generation Team, and technology administrators (to name a few). Currently, the recommended approach consists of a phased upgrade due to the assistance it will provide the state concerning implementation, funding, etc.

Phase I improvements aim to relieve the stress caused by the size of the current AFIS system. During the proposed Phase I upgrade to the Nebraska AFIS system, one can expect to see both accuracy and speed increased in the operating system, improvements to the AFIS data processing services, and improvements to the ability to review the processed system transactions. The goal of future phases of upgrade is to see improvements in the user interface and equipment utilized as part of AFIS

The everyday reality is that the demand on the Nebraska AFIS system will continue to increase and, as a result, an upgraded operating system is needed to keep up with the ever-building numbers.

**If you have any questions/concerns with regard to the proposed Nebraska AFIS system operations upgrade, please contact: Jennifer Kirkpatrick, Research Manager - Nebraska State Patrol, Criminal Investigations Division.**

**Phone: 402-479-4007    Email: [Jennifer.Kirkpatrick@nebraska.gov](mailto:Jennifer.Kirkpatrick@nebraska.gov)**





## NSP Crime Lab Statewide Educational Outreach



The lab staff at the Nebraska State Patrol Crime Laboratory continually strive to not only provide quality analytical services to submitting agencies across the state, but to also educate citizens in the communities we serve!

Laboratory staff from each NSP crime lab analytical unit recently manned a booth at the **Zoetis-LPS-Novartis Science Fair on March 21, 2013 in Lincoln, NE** (Lancaster County Event Center). The science fair is a large educational event featuring Lincoln Public Schools student science research projects (grades 5-8). This year's fair had 648 student participants. In addition to browsing the science fair projects, students, parents, and the general attending public can also visit booths/displays put on by the professional scientific community. The Nebraska State Patrol Crime Lab display was aimed at educating students and the public-at-large about careers in forensic science!

The Nebraska State Patrol Crime Laboratory will have a display featured at the **Nebraska State Capitol Building on the First Floor Rotunda, April 22-29, 2013**. The goal of the display is to educate the public regarding forensic science and highlight the services we provide the citizens of Nebraska. If you or people you know are interested in learning about forensic science and/or the Nebraska State Patrol Crime Lab and are in the neighborhood, please stop by our display!

## Save The Date!! 2013 Crime Lab Road Show

The NSP Crime Lab Road Show is back by popular demand!! Starting early Fall 2013, Nebraska State Patrol Crime Laboratory staff from **the Latent Fingerprint Section and the Controlled Substances Section** will be traveling the state to provide our submitting agencies training on the following topics:

-  **Latent Fingerprint Section:** Basic fingerprint processing techniques for field officers, latent lab capabilities, specific packaging/collection requirements for latent print evidence, order of processing of evidence by the lab, etc.
-  **Controlled Substances Section:** Discussion concerning the difficulties with testing synthetic drugs, drug legislation issues, and an explanation of laboratory reports for controlled substances.

**Attendance will count toward Continuing Legal Education (CLE) hours (hours TBD)**





## Hints on Evidence - Just a Reminder!

When submitting evidence to the lab, please remember to use the **most current versions of the lab submittal forms (750 and 750A)** located on the NSP website! As a submitting agency, you **only** need to fill out the **750A form** when you are submitting items of evidence to be tested for **DNA!** Evidence submitted for all other types of analysis can be submitted on the standard 750 form (no need for the 750A).

<http://www.statepatrol.nebraska.gov/crimelab.aspx>

If you have any other questions with regard to the packaging and submission of evidence items, please don't hesitate to contact the lab!



## Spotlight on Forensics - Bridget Driver (Latent Fingerprint Section)



**Name:** Bridget E. Driver

**Hometown:** Grand Island, NE

**Education:** B.S. in Criminal Justice from the University of Nebraska at Kearney

### **Work Experience:**

Nebraska State Patrol – Criminal Identification Division (Criminal Identification Records Technician), Lincoln, NE (May 2003-July 2004)

Nebraska State Patrol – Criminal Identification Division (Fingerprint Technician), Lincoln, NE (August 2004-June 2007)

Nebraska State Patrol – Crime Laboratory (Forensic Scientist – Latent Prints), Lincoln, NE (July 2007-Present)

**Things I enjoy:** spending time with my husband, two children, family and friends; attending my kids' various sporting events; reading; and working part time as a fitness instructor.

**Favorite Quote:** Your life is like a fingerprint which cannot be duplicated, so leave the best impression. – Dr. Henry Faulds.

**Contact Info:** Email: [Bridget.Driver@nebraska.gov](mailto:Bridget.Driver@nebraska.gov) Direct Line: (402) 471-8914





**Laboratory Director:**  
**Pam Zilly**

**Nebraska State Patrol  
Crime Lab  
1233 Arapahoe St.  
Lincoln, NE 68506**

**(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:**

**[Vicki.Hopkins@nebraska.gov](mailto:Vicki.Hopkins@nebraska.gov)**

**The Lab Report Editor:  
Amy Weber**

## **Nebraska State Patrol Crime Lab Staff Contact Information:**

### **Laboratory Director:**

**Pam Zilly**

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

### **Quality Assurance Manager:**

**Vicki Hopkins**

[Vicki.Hopkins@nebraska.gov](mailto:Vicki.Hopkins@nebraska.gov)

### **Evidence Section:**

**Jan Johnson (Supervisor)**

[Jan.Johnson@nebraska.gov](mailto:Jan.Johnson@nebraska.gov)

Margaret Wiesen

[Margaret.Wiesen@nebraska.gov](mailto:Margaret.Wiesen@nebraska.gov)

### **Physical Sciences Unit:**

**Vacant (Manager)**

### **Firearm/Toolmark Section**

**Kent Weber (Supervisor)**

[Kent.Weber@nebraska.gov](mailto:Kent.Weber@nebraska.gov)

Amy Weber

[Amy.Weber@nebraska.gov](mailto:Amy.Weber@nebraska.gov)

Sarah Zarnick

[Sarah.Zarnick@nebraska.gov](mailto:Sarah.Zarnick@nebraska.gov)

### **Latent Fingerprint Section:**

**Mariana Ward (Supervisor)**

[Mariana.Ward@nebraska.gov](mailto:Mariana.Ward@nebraska.gov)

Steve Burke

[Steven.Burke@nebraska.gov](mailto:Steven.Burke@nebraska.gov)

Bridget Driver

[Bridget.Driver@nebraska.gov](mailto:Bridget.Driver@nebraska.gov)

### **Questioned Documents Section:**

Pam Zilly

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

### **Chemistry Unit:**

**Celeste Laird (Manager)**

[Celeste.Laird@nebraska.gov](mailto:Celeste.Laird@nebraska.gov)

### **Controlled Substances**

Vicky Cowan

[Vicky.Cowan@nebraska.gov](mailto:Vicky.Cowan@nebraska.gov)

Abbey Dodds

[Abbegayle.Dodds@nebraska.gov](mailto:Abbegayle.Dodds@nebraska.gov)

Meggan Macomber

[Meggan.Macomber@nebraska.gov](mailto:Meggan.Macomber@nebraska.gov)

### **Toxicology**

Brad Rutledge

[Brad.Rutledge@nebraska.gov](mailto:Brad.Rutledge@nebraska.gov)

### **Trace**

Mike Auten

[Mike.Auten@nebraska.gov](mailto:Mike.Auten@nebraska.gov)

### **Biology Unit:**

**Jason Linder (Manager)**

[Jason.Linder@nebraska.gov](mailto:Jason.Linder@nebraska.gov)

**Katie Rector (CODIS/Supervisor)**

[Katherine.Rector@nebraska.gov](mailto:Katherine.Rector@nebraska.gov)

Jeff Bracht

[Jeff.Bracht@nebraska.gov](mailto:Jeff.Bracht@nebraska.gov)

Christel Davis

[Christel.Davis@nebraska.gov](mailto:Christel.Davis@nebraska.gov)

Hillary Duin (CODIS Lab Tech)

[Hillary.Duin@nebraska.gov](mailto:Hillary.Duin@nebraska.gov)

Melissa Kreikemeier

[Melissa.Kreikemeier@nebraska.gov](mailto:Melissa.Kreikemeier@nebraska.gov)

Brandy Porter

[Brandy.Porter@nebraska.gov](mailto:Brandy.Porter@nebraska.gov)

Heidi Young

[Heidi.Young@nebraska.gov](mailto:Heidi.Young@nebraska.gov)