



The Lab Report

Volume 6, Issue 1

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Case Prioritization and Turnaround Times

The turnaround times (TAT) reported in our Backlog Corner reflect the average number of days from receipt of a case at our lab to the date a laboratory report is generated. This number averages all cases completed in each analytical unit/section during that quarter, combining both rush and routine case turnaround times. **This number does not reflect how long it takes to get a prioritized case completed.**

Homicide and death investigation cases are prioritized at the laboratory. They are worked as quickly as possible and normally completed well in advance of the average turnaround time. Other types of cases can be rushed depending upon the reason for the request, the number of other rush cases pending and the total workload of the analytical section involved in performing the requested testing.

If you need to have a case prioritized, please complete an NSP750B Rush Request form explaining the need for the request and providing your contact information. Rush requests are evaluated on a case by case basis by the head of the section or unit and accommodated whenever feasible. Form 750B and other Crime Lab forms can be found on our website at <http://statepatrol.nebraska.gov/crimelab.aspx>.

The Backlog Corner

*** average turnaround time (TAT) is the average number of days that cases are turned around – this number includes Rush and Routine cases. The number is calculated by our LIMS system**

Biology Unit: 280 assignments – average TAT: **203.58 days**

Physical Sciences Unit:

Latent Fingerprints: 116 assignments – average TAT: **129.14 days**

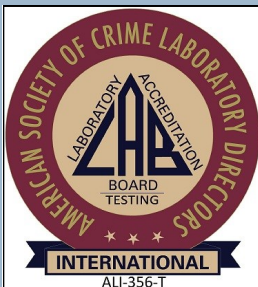
Firearm/Toolmark/Footwear/Tire: 31 assignments – average TAT: **56.34 days**

Chemistry Unit:

Controlled Substances: 925 assignments – average TAT: **101.02 days**

Toxicology: 261 assignments – average TAT: **126.23 days**

Trace: 4 assignments – average TAT: **111.83 days**



ASCLD/LAB accredited since 2004.

NSPCL Frequently Asked Questions (FAQs)

General/Evidence Submission FAQs

Q1: Do you have a new submittal form because of your move?

- ☑ An updated form with our new address is available on the NSP website at: <http://statepatrol.nebraska.gov/formsyoumayneed.aspx>

Q2: Where do I send blood for blood alcohol testing?

- ☑ **Blood alcohol testing** is done at the Health and Human Services Laboratory. You can reach the Health Lab at 402-471-8460
- ☑ **Urine testing** for the presence of drugs in DUID cases is done at our laboratory, the NSP Crime Laboratory.

Q3: What is the cost to have evidence examined by the NSP Crime Lab?

- ☑ We are a publically funded laboratory. Our services are **FREE** to any law enforcement agency in our state.

Q4: Why don't you charge for your services; wouldn't that reduce the number of requests you get for unnecessary or excessive testing?

- ☑ **We currently have no statutory authority to charge for our services.** We depend upon the cooperation of our submitting agencies to carefully evaluate what they are sending in for examination and limit those submissions to the most probative and important items. That cooperation can help optimize the use of the scientist's time and resources allowing us to focus on getting critical items tested in a more timely fashion.

Q5: Why is the state crime laboratory a division of the Nebraska State Patrol?

- ☑ The state crime laboratory was formed in the early 1970s by Nebraska Statute 81-2010 which mandates "...Criminalistics Laboratory is hereby established within the Nebraska State Patrol..." This statute also specifies our purpose, which is "shall perform services necessary for the recognition and proper preservation, identification, and scientific analysis of evidence materials pertaining to the investigation of crimes."

Evidence Section/General

Pam Zilly (Lab Director)

Vicki Hopkins (QA Mgr.)

Jan Johnson (Sup.)

Margaret Wiesen



NSPCL Frequently Asked Questions (FAQs)

Biology Unit: General FAQs



Q1: How do I get my case rushed?

- ☑ **We automatically prioritize death investigation cases.** Other cases can be prioritized on a case by case basis for trial or if there is a continued risk to public safety. Contact the lab to make this request or complete an NSP 750B Rush Request. Most rush requests require at least 30 days, so please notify the lab as soon as you have a court date set.

Q2: When do I need to complete an NSP 750A form?

- ☑ **Anytime you are submitting evidence for DNA testing.** If you are only submitting reference samples, the NSP 750A is not required.

Q3: Can you use a reference from another case in my case?

- ☑ The short answer is yes. However, it may depend on how the reference was collected (court order, voluntarily, etc.). **It is strongly encouraged that you consult with your county attorney's office to be sure the reference sample will be admissible.** If the reference sample was collected by another agency, the lab will also need permission from the other agency prior to using the sample for comparison to your case.

Q4: My suspect is in CODIS, so why do you need a reference sample? Can't you use that sample for comparison?

- ☑ No. The FBI prohibits the lab from 'cherry picking' samples out of the database for comparison purposes. The only way an evidence profile can be compared against profiles in the database is if it is eligible to be entered into the database itself.

Q5: What kind of hair testing can the lab do?

- ☑ **Hair analysis is limited to identifying hairs as possible human origin and for the suitability for nuclear DNA testing.** If the hair is deemed suitable for nuclear DNA testing, DNA testing can be performed.

Q6: Does the lab perform criminal paternity testing?

- ☑ Not at this time, however, we will be glad to help you find a lab that can do the testing for you.

Biology Unit

Jason Linder (Mgr.)

Katie Rector (Sup.)

Jeff Bracht

Deb Davis (CODIS)

Hillary Cooper

Dani Oshlo

Brandy Porter

Heidi Young



NSPCL Frequently Asked Questions (FAQs)

CODIS Specific FAQs

Q1: My evidence was sent to the University of Nebraska Medical Center HDI Lab for DNA testing. Can it go into CODIS?

- Maybe. You will need to fill out an NSP 751 form (found on the Nebraska State Patrol website) and submit it to nsp.codis@nebraska.gov or fax it to 402-471-8954.** The UNMC HDI Laboratory's case file will be reviewed for CODIS eligibility by the Crime Laboratory. You will be notified whether the evidence was entered into CODIS or not.

Q2: I am receiving an Access error when trying to log onto CODIS Prelog—what should I do?

- First, check to make sure that you are using the correct internet browser. CODIS Prelog is only compatible with Internet Explorer (IE) versions 8, 9, and 10.** It has also been known to work with IE version 11 in compatibility mode. If you are using the correct browser and you are still experiencing problems please contact Katherine Rector at katherine.rector@nebraska.gov or 402-471-8950.

CODIS

*Katie Rector (Sup.)
Deb Davis*



Latent Prints Section

*Mariana Ward (Sup.)
Bridget Driver
Samuel McCook*

Latent Prints Section FAQs

Q1: Can gloves found at the crime scene be processed for latent prints and DNA?

- Various types of gloves are often found at the scene of a crime, and while they can be a valuable source of DNA and/or latent print evidence, **they cannot be processed for both at the same time.** The processes used by the Latent Prints Section require rinsing off the item, which in turn "washes off", or dilutes the DNA. On the other hand, collection of a DNA sample requires swabbing the item, which in turn destroys latent print evidence. **The officer therefore must decide which evidence examination would be more significant for the case, and should proceed with one or the other.**
- While latent processing generally develops at least some friction ridge detail, it is often found to be of no value for comparison purposes, due to the smudging and smearing (caused by the sweating of the hand), and overlapping of impressions (due to the movement of the hand inside the glove). **Our experience has shown that much better results are obtained through a DNA analysis.** Since the hand is in a direct contact with the surface of a glove, sweat, oils, and moisture are being contained inside of the glove, often providing a good source of DNA.

NSPCL Frequently Asked Questions (FAQs)

Firearm/Toolmark Section FAQs



Q1: Are fired bullets exhibiting damage/distortion of any value for analysis?

- ☑ **Despite a bullet's damaged appearance/condition, there are frequently bullet traits that can be visualized microscopically.** Plus, some bullet information is more definitive in narrowing down the responsible firearm. It is always good practice to submit damaged bullets for a thorough examination. For additional details, see the [October 2011 edition](#) of *The Lab Report*.

Q2: Can the NSP Crime Lab perform gunshot residue (GSR) analysis?

- ☑ There are two common types of GSR testing...one that focuses on the presence of a combination of particles left on or immediately around a person handling/shooting a firearm, and another that focuses on the residues propelled out of the muzzle and sometimes deposited on a target or victim. **The NSP Crime Lab can perform the latter type of analysis, called distance determination or range estimation, and usually involves testing of a victim's clothing.** The first type of GSR testing can be performed by a number of private labs, and a short list of those labs is available upon request. For additional details, see the [December 2011 edition](#) of *The Lab Report*.

Q3: How many of the fired bullets/cartridge cases recovered from a scene are needed for analysis?

- ☑ **All of them!** Each item must be examined to determine whether the evidence indicates that a greater number of firearms (and their characteristics) were present than originally believed.

Q4: Can the NSP Crime Lab perform analysis on shotgun ammunition components?

- ☑ **Yes, there is a great deal of information that can be gleaned from shotgun ammunition and compared to firearms and/or unfired ammunition.** Testing may include determining shot size and composition, examining wadding characteristics, and even using barrel markings on wads to compare to a firearm. For additional details, see the [October 2011 edition](#) of *The Lab Report*.

Q5: What is the best way to send footwear/tire impression photos to the Lab to compare to submitted footwear/tires?

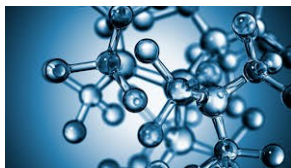
- ☑ **Photos having potential value for comparative analysis to submitted shoes or tires are considered evidence.** Therefore, the photos need to be placed onto a CD/DVD, packaged as evidence, and be accompanied by a submittal form. Ideally, photos should be in the highest quality format possible (and be accompanied by a photo log, if large numbers of photos are submitted). Submitted photos will be maintained in their original condition, with analytical processing and enhancement conducted on a copy of those photos.

Firearm/Toolmark Section

Kent Weber (Sup.)

Amy Weber

Sarah Zarnick



NSPCL Frequently Asked Questions (FAQs)

Controlled Substances Section FAQs

Controlled Substances Section

Celeste Laird (Mgr.)

Abbey Dodds (Sup.)

Vicky Cowan

Meggan Macomber

Amanda Neely

Jerry Smith

Q1: Does the NSPCL test pills?

Yes.

- 1) We ask that the submitting agency check the logo on any pills on drugs.com or with poison control and ONLY submit pills that are controlled substances. For additional details see the [October 2013 edition](#) of *The Lab Report*.
- 2) Non-controlled (over-the-counter/prescription only) pills will only be literature searched, no instrumental analysis will be performed.

Q2: Can I submit a syringe?

NO. The crime laboratory does not accept syringes. **You may submit the liquid from the syringe** - please see following question.

Q3: How do I submit the liquid from a syringe and when will it be tested?

IF the syringe liquid is the only item of evidence for a suspect, OR is the probable cause for a search :

- 1) CAREFULLY rinse through the syringe with rubbing alcohol, or water (alcohol is preferable) allowing the liquid to "sit" in the barrel of the syringe for 60 seconds.
- 2) Place this rinse into a new "red topped" blood collection tube available from any hospital or doctor's office laboratory.
- 3) Package carefully to ensure it will not break in transit and clearly mark on the submittal form that a syringe rinse is enclosed.
- 4) The rinse will ONLY be tested if there is no other evidence on a suspect or it was probable cause for a search or arrest. This must be CLEARLY indicated on the submittal form.
- 5) For additional details see the [October 2014 edition](#) of *The Lab Report*

Q4: How much of _____ can I submit?

This varies by substance:

Marijuana - up to two lbs may be submitted to be weighed. If one brick weighs more than two lbs, the entire brick may be submitted. **If additional bricks require testing, submit samples ONLY and clearly label them as samples**

Cocaine and Heroin - up to one kilogram maybe be submitted to be weighed. If one brick weighs more than a kilogram, the entire brick may be submitted. **If additional bricks require testing, submit samples ONLY and clearly label them as samples.**

Methamphetamine - the entire amount may be submitted

NSPCL Frequently Asked Questions (FAQs)

Controlled Substances Section FAQs



Q5: Will all the items I submit be tested?

- ☑ It depends on the situation. Items that contain **residue amounts** of substances will only be tested if it meets one of the following requirements:
 - 1) The residue is the only item in the case or the only item that can be attributed to a specific suspect. One residue of a kind per suspect will be tested; the item **MUST** be marked to indicate which suspect is assigned to each residue.
 - 2) The residue was the probable cause for a search; **MUST** be marked as such on the submittal form.
 - 3) The prosecutor is able to give justification for testing; this **MUST** be approved prior to submission to the lab.
- ☑ **Drug analysts will test all substances submitted which have weight unless the submittal form indicated otherwise.**

Q6: On what and when will purity analysis be done?

- ☑ Purity analysis is done on methamphetamine samples for federal prosecution and in **VERY** limited situations on large state cases at the prosecutors' request. The federal prosecutor will be consulted regarding need for purity analysis and the amount that will be tested. Not all federal methamphetamine cases require purity
- ☑ The NSPCL cannot perform purity testing on residue amounts of methamphetamine

Q7: Can the NSPCL perform testing to determine the % THC present in plant material, oils or food products?

- ☑ No - they will be tested to determine the **presence of THC only**.

Q8: What if I need latent prints on my evidence in addition to drug testing?

- ☑ No drug testing will typically be performed until after latent print analysis is completed, so be aware that requesting latent analysis may slow the receipt of drug analysis results.
- ☑ **For large cases** (as explained in the quantity of submission question above), the packaging of the drugs submitted for drug testing can be examined for latent prints if requested. If latent processing of additional large seizure packages is deemed necessary, approval must be obtained from the latent print section prior to the evidence being submitted to the laboratory.
- ☑ **For "normal" cases**, if at all possible, separate the items needing drug testing and the items needing latent print testing—this will prevent a slowdown of drug results. Powder or plant material items where packaging requires processing for latent prints should be repackaged and submitted separated from the original packaging.

Controlled Substances Section

*Celeste Laird (Mgr.)
Abbey Dodds (Sup.)
Vicky Cowan
Meggan Macomber
Amanda Neely
Jerry Smith*



NSPCL Frequently Asked Questions (FAQs)

Toxicology Section FAQs

Toxicology Section

Celeste Laird (Mgr.)

Brad Rutledge

Q1: How much urine is needed for testing?

- ☑ The target amount needed for urine testing is **42 milliliters**. If less urine is obtained, it may still be submitted but it is possible that all screens and confirmations may not be able to be performed.

Q2: What do the cutoff levels listed on toxicology reports mean?

- ☑ The cutoff levels reported are specific to select drugs and are a means of ensuring no false positives. They DO NOT have any correlation to impairment.

Q3: Can the NSPCL Toxicology Section provide impairment information and testimony?

- ☑ No, all our testing can provide is information regarding whether a substance was present. Field Sobriety or Drug Recognition Evaluation (DRE) is required to provide impairment information.

Q4: If I don't have urine can the NSPCL Toxicology Section test blood or other body fluids?

- ☑ **Title 177 Chapter 7 of the Nebraska Rules and Regulations requires that urine be testing for the presence of drugs in driving cases.** The NSPCL does not have methods nor instrumentation to provide testing for any fluid other than urine.

Q5: What substances can the NSPCL Toxicology Section NOT test for?

- ☑ The NSPCL Toxicology Section **cannot** test for the following:
 - Synthetic Cannabinoids of any kind
 - Alcohol
 - LSD (Lysergic acid diethylamide)
 - GHB (Gamma-Hydroxybutyrate)
 - Antibiotics
 - Duloxetine (Cymbalta)
 - Quetiapine (Seroquel)
 - Carbon monoxide
 - Poisons
 - Inhalants
 - Steroids

Q6: Does the NSPCL test urine samples from all sexual assault cases?

- ☑ **No.** The NSPCL does not have the resources to test sexual assault samples unless there is a credible possibility of drug facilitated sexual assault. The NSPCL is not able to test for at least one of the commonly purported drug facilitated sexual assault drugs, so the NSPCL should be consulted prior to submission to determine if testing at a different facility would be more appropriate.

NSPCL Frequently Asked Questions (FAQs)

Toxicology Section FAQs

Q7: How should urine samples be stored and transported?

As per Nebraska Rules and Regulations Title 177, Chapter 7:

- 1) Sample collection shall be in the presence of collection personnel designated by the law enforcement agency to assure that adulteration of the sample does not occur.
- 2) Specimen containers shall be labeled and shall show the following information on the label:
 - Name of person tested
 - Date and time of specimen collection
 - Initials of the person supervising the collection of the specimen
- 3) Specimen containers with collected urine shall be sealed and refrigerated as soon as practical.
- 4) While not in transit to a site for screening or confirmatory testing, and while not under actual testing, all specimens shall be in secured refrigerated storage at four (4) degrees centigrade or less.

Q8: Are the NSPCL Toxicology Section and the State Health Laboratory Alcohol Testing Section the same?

- No they are not the same. We DO NOT perform the same testing and we are not housed in the same location. **The State Health Laboratory performs testing for alcohol in BLOOD and is housed in the state laboratory building at 3701 S. 14th Street, Lincoln, NE.**
- The NSPCL Toxicology Section performs testing for the presence of drugs in URINE and is housed in the Crime Lab building at 3977 Air Park Road.**
- You MUST submit your samples to the appropriate location to avoid unnecessary delays and chain of custody concerns.

Q9: Does the NSPCL Toxicology Section test for alcohol?

- No. The NSPCL cannot test for any alcohol whether driving related or otherwise.





Trace Section

Celeste Laird (Mgr.)

Mike Auten

NSPCL Frequently Asked Questions (FAQs)

Trace Section FAQs

Q1: What can the NSPCL Trace Section test for?

- The NSPCL Trace Section performs testing on:
 - Fire debris samples for the presence of accelerants
 - Possible low explosive evidence

Q2: How do I properly package my arson evidence?

- Fire Debris evidence should be packaged in one of the following to prevent loss of sample:
 - Clean unused paint cans
 - Kapak fire debris plastic bags
 - Nylon fire debris plastic bags
 - DO NOT use regular plastic or paper bags
 - When in doubt please contact the Crime Laboratory

Q3: Can you compare a found liquid accelerant sample to the extract residue from fire debris?

- No we do not have this capability.

Spotlight on Forensics – Jerry Smith, Chemistry Unit Analyst



Name: Jerry Smith

Hails From: Born in Omaha Nebraska, and moved to Weeping Water, Nebraska in 1997.

Education: B.S. Chemistry from Creighton University in Omaha, Nebraska.

Employment: After college, I worked as a chemist in a water and soil lab. I then started working for the Eastern Nebraska Forensic Lab in 1996. I worked there for 18 years and have now worked for the NSP crime lab for just over one year.

In my Spare Time.....I love to camp, hunt, fish, and relax on the boat with my family. I referee soccer games, and stripe soccer fields. My kids play several sports, and I coach basketball, soccer, and softball. When I find spare time I love to tinker with, and fix stuff in my garage.



CODIS News



The Combined DNA Index System (CODIS) continues to grow and it produces invaluable investigative leads for our law enforcement agencies! In order to assist our customers in utilizing the database to its fullest potential I have provided a few important reminders below. If you ever have any CODIS-related questions please don't hesitate to contact Katherine Rector at katherine.rector@nebraska.gov

Casework/Evidence Submission

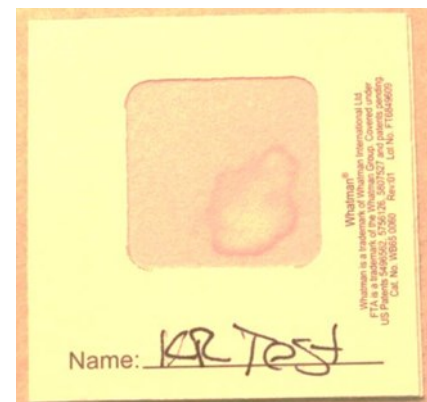
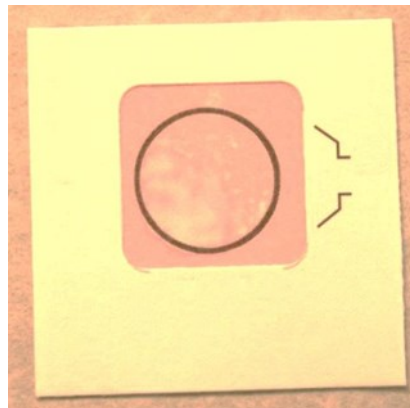
- **The Nebraska State Patrol Crime Laboratory is not permitted to pull profiles of interest out of the database and compare them to your evidence.** The only way evidence is compared to the database is if it meets the eligibility requirements to be entered into the database itself.
- After receiving a Hit Letter from the Nebraska State Patrol Crime Laboratory, you must recollect the offender's sample and submit it as a known standard to the Crime Laboratory (using an NSP 750 form referencing the Laboratory Case Number) for comparison and/or court purposes.
- If the evidence has been submitted to the Nebraska State Patrol Crime Laboratory for testing the DNA profile obtained will automatically be submitted to CODIS if it meets eligibility requirements.
- If a Nebraska law enforcement agency submits evidence to the University of Nebraska Medical Center HDI Laboratory and a DNA profile is developed that they would like put into CODIS, the law enforcement agency can complete a NSP 751 form and submit it to nsp.codis@nebraska.gov or fax it to 402-471-8954.
 - Even if your case is solved, it is important to fill out the NSP 751 form and get it entered into CODIS if it is eligible so that it can assist in identifying serial crimes and other unsolved cases.
- If you are curious as to whether your evidence is eligible for CODIS entry or if it is being searched in CODIS please feel free to contact Katherine Rector.



CODIS News

Offender DNA Collection

- If you need additional DNA Collection Kits contact Debra Davis or Katherine Rector at 402-471-8950 or email us at debra.davis@nebraska.gov or katherine.rector@nebraska.gov
- Please utilize CODIS Prelog to electronically submit your offender information and search for previously collected offender samples. **If you do not have a CODIS Prelog account please contact Katherine Rector.**
- **Please do not lick or glue the Sample or Kit envelopes.** Use the tamper resistant tape provided in the collection kit to seal the envelopes.
- **When filling out the DNA Collection Card, please be sure to obtain all signatures for the Person Collecting and the Person Preparing the Card.** The sample may be rejected if these signatures are not present.
- **When collecting the offender's DNA sample using the EasiCollect Device (blue plastic sponge) please ensure that there is a color change on the FTA card from pink to white.** We have been getting samples in with no color change and these samples produce little to no DNA. Without an appropriate amount of DNA on the collection card we are not able to produce a DNA profile and you will need to re-collect the sample.



Touch DNA Refresher

The Biology Unit receives many cases that contain “touch” DNA evidence. Touch DNA is the transfer of skin cells to an object by touching or handling an item. This type of DNA testing often has a low success rate.

There are many factors that can affect the success of touch DNA. Some of these factors include: hand washing, shedder status, personal habits, type of contact, substrate, perspiration, and environmental conditions.

Things to Keep in Mind: Touch DNA



Do the victim and suspect cohabitate? If so, it is not uncommon for their DNA to be present on items from their home.



Areas of high public use such as bank counters, doorknobs, businesses, external car door handles can have low success rates and sometimes have numerous contributors. Can elimination samples from all of those individuals be collected?



Was this evidence exposed to environmental conditions such as high temperature, sunlight, humidity, rain? If so, the success rate for touch DNA on these items is low.



The biology section does not test fired cartridge casings, unfired cartridges, and fired bullets for DNA. Exceptions can be made with prior approval by the NSPCL.



Biological fluids (blood, semen, saliva) should be prioritized first for submission before touch DNA evidence.

Keep in mind what questions you are trying to answer in your case. Will DNA help you do so?





Laboratory Director:
Pam Zilly
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Nebraska State Patrol
Crime Lab
3977 Air Park Rd.
Lincoln, NE 68524

(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:
NSP.CrimeLab@nebraska.gov

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