

Handbook of Forensic Services



New Hampshire Department of Safety

Division of State Police

Forensic Laboratory





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This handbook is dedicated to all past, present and future public servants who devote their careers to providing the State of New Hampshire with the highest degree of law enforcement and forensic services while maintaining the traditions of fairness, professionalism and integrity.

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INTRODUCTION

It is the goal of the New Hampshire State Police Forensic Laboratory to handle and analyze evidence from criminal matters in a manner that will minimize loss, contamination and/or deleterious change.

The purpose of this Handbook is to provide guidance and procedures for safe and efficient methods of collecting and preserving evidence for submission to the laboratory and subsequent analysis. The Handbook describes the forensic testing and other services provided by the Forensic Laboratory. It also provides information regarding additional resources available to law enforcement.

Forensic Laboratory services are available to all local, state and federal law enforcement agencies in the state of New Hampshire for the purpose of rendering assistance in criminal investigations and legal proceedings.

All submissions of exhibits should be in connection with criminal investigations that take place in New Hampshire or are in some way connected to New Hampshire. No examinations may be conducted for private individuals or corporations.

If any further assistance is desired, please contact the laboratory at 223-3854.

SCOPE OF SERVICES

General Policies

Evidence Examination - Terms & Conditions

It is the mission of the State of New Hampshire Department of Safety, Division of State Police Forensic Laboratory to provide the highest quality service available to all members of the law enforcement community and the justice system.

By relinquishing evidence to the NHSP Forensic Laboratory you are agreeing to the following terms and conditions:

- The application of the technical methods used and any technically justified deviations from the methods, the items tested, the sampling plan to be followed, and the structure and content of the test report are at the discretion of the Laboratory as outlined in the forensic unit specific technical procedure manuals.
- Any significant deviations from the documented request, such as conducting additional examinations that were not requested, will be communicated to the submitting agency before the additional analytical work commences.
- In the event the Laboratory does not offer a particular service, the submitting agency will be advised in advance of any transfer of evidence to an outside laboratory. The submitting agency will also be advised of any costs associated with external analysis.

If you have any questions regarding these terms and conditions, or would like any additional information, please contact the Laboratory Director at 223-3854.

Analyses Offered

A list of the analyses offered by the Laboratory can be found in Appendix A. Please refer to this list when completing the “Check For” column of the Evidence Examination Request form (DSSP 20). If a service is not provided by the NHSP Forensic Laboratory, the laboratory can facilitate identifying an external laboratory which may be able to perform the service, and submission of the evidence to the laboratory if the fees are acceptable to the submitter. Additionally, please consult Appendix C for additional contacts within the forensic community that may be able to assist your investigation.

Case Prioritization

Cases are generally processed in the order which they are received; however, there are several situations which may warrant an expedited request for analysis. Depending on the unit of the laboratory, expedite requests may be granted for:

- Grand Jury
- Bench or Jury Trial
- Homicide or other Major Crime
- Suspect deemed an imminent flight risk/public menace
- Risk of re-victimization
- Missing Persons

If you have a case which you would like to have expedited, please contact the appropriate Unit Supervisor for consideration of the request.

Case Cancellation

If it has been determined that a case is not going forward, please call the laboratory **as soon as possible**. This will allow the criminalist to concentrate on other cases.

Major Cases

Some cases, such as homicides, may involve the submission of numerous items of evidence which require analysis by multiple units of the laboratory. Prior to submission of evidence and/or the start of analysis, the laboratory must be contacted and a criminalist will be assigned to act as the Major Case Coordinator (MCC). This individual will be the laboratory's contact for the case and will be responsible for ensuring the appropriate examinations are performed, any changes in analysis requests, or subsequent fulfillment of discovery requests. A Major Case meeting involving the lead investigator, the case prosecutor and the MCC may be required prior to submission and/or analysis of any evidence. The purpose of the meeting is to review the evidence collected and prioritize its analysis.

BIOLOGY UNIT

(Serology and DNA)

Unit Scope

- Screen items for the presence of body fluids, such as blood, semen and saliva
- Document the presence of hairs, and collect them for further analysis if requested
- Perform DNA analysis on items of evidentiary value and compare results with known DNA samples from a victim and/or suspect
- Facilitate submission of DNA samples for missing persons/unidentified human remains cases to outside laboratories
- Maintain the Combined DNA Index System (CODIS) database
- Photographically document bloodstain patterns
- Facilitate sending out urine or blood samples to reference toxicology laboratories in cases of suspected drug facilitated sexual assaults

Types of evidence include:

- swabs from crime scenes
- clothing/bedding
- condoms
- sexual assault evidence collection kits
- furniture or cuttings from furniture (mattress, sofa, etc.)
- Cigarette butts, bottles, cans, etc.

- other items suspected of containing serological or DNA evidence (hats, glasses, etc.)

Vomit, urine and fecal matter **will not** be accepted for analysis.

Special Considerations

The Forensic Biology unit typically will not perform analyses for drug offenses.

For sexual assault cases it is strongly suggested that only the sexual assault examination kit and/or the victim's clothing, in addition to any known biological samples (including consensual partners, if applicable) be submitted to the laboratory for the initial examination. Should the examination of these items yield nothing of evidentiary value, additional items may then be submitted for analysis.

The term "buccal swab" is specific for a swab taken from the inside of the mouth. Evidence from crime scenes or objects should not be listed on the DSSP 20 as buccal swabs.

For forensic biology submissions, the DSSP 20 should clearly indicate the specific body fluid the item is to be examined for (e.g., blood, semen, saliva) or type of screening examination to be performed (e.g., wearer DNA, hairs). It should not merely state to check for "DNA." There is no need to indicate screening requests for known samples.

Alternate known samples (e.g., cigarette butts or other items used by an individual submitted in place of buccal swabs) are accepted for analysis. These are typically only accepted if there is insufficient probable cause to obtain buccal swabs from the person of interest. The DSSP 20 must clearly indicate that the exhibit is meant for use as an alternate known sample. DNA

comparisons with alternate known samples will merely state that two items could have a common source, but will not provide a definite link between an individual and a crime scene. These reports are generally used to obtain a search warrant for buccal swabs for subsequent submission and analysis.

The laboratory can assist with the photographic documentation of bloodstain patterns for evidence it is already examining for serological purposes, but does not provide any analysis of such pattern evidence. Laboratory personnel can recommend outside experts if analysis of bloodstain patterns is desired.

Extent of Workup

➤ General

If several items from a single location are submitted, examination may cease when evidence of probative value is found on any one item.

If the probative value of evidence is unclear, the analyst may call the submitting agency for assistance in prioritizing the analysis of the evidence.

Submitting agencies are asked to only submit the most probative items of evidence to the laboratory initially. If examination of those items does not yield information of value, additional items may be submitted at a later date. For example, only the rape kit should initially be submitted for examination in sexual assault cases. If the contents of the rape kit are negative, the submitting agency may then submit clothing or bedding for subsequent analysis.

➤ Sexual assault

The Sexual Assault Evidence Collection Kit will be examined first. If any evidence of probative value is found in the contents

of the kit, no additional testing will be performed on clothing, bedding, etc. If the kit is negative, additional items may be examined, but the examination will cease if evidence of probative value is found on any one item.

➤ **Assault, homicide & burglary**

Items may be prioritized such that the examination may cease when evidence of probative value is found on any item. For example, if multiple items of a suspect's clothing are submitted, the serological examination may end when blood is found on any one item.

Additional information

➤ **DNA Examinations and the Combined DNA Index System (CODIS) Database**

The purpose of the CODIS database is to provide investigative information. The DNA section will analyze evidence for CODIS entry in certain cases regardless of whether a suspect has been identified. In order for an evidence profile to be submitted to CODIS, the laboratory must have documentation on hand describing why the evidence is thought to be left by the perpetrator. For example, information that the submitted blood swab was taken from a point of entry for a burglary and was not present prior to the crime would justify CODIS entry. Please provide this supporting information when submitting samples. DNA profiles which are attributable to the perpetrator can be entered into the Combined DNA Index System (CODIS) for comparison with a state and national database of DNA profiles from crime scene evidence and known offenders.

Any hits resulting from a DNA search will be provided to the submitting agency as an investigative lead. For confirmation of an offender hit, the submitting agency will be asked to obtain

known buccal swabs for analysis. Following analysis of the known sample, a laboratory report linking the individual to the evidence will be generated. Because a known buccal sample is required in the event of a CODIS hit, a great deal of time can be saved if buccal swabs are obtained early in the investigation and submitted to the laboratory for a direct comparison rather than waiting for a CODIS hit. For certain cases, an elimination sample may be required prior to DNA analysis if the evidentiary profile is to be entered into CODIS. For example, if a sexual assault victim had consensual intercourse within five (5) days prior to the assault, a known sample from the consensual partner will be requested.

RSA 651-C - DNA Testing of Criminal Offenders, describes which convicted offenders are required to provide a DNA sample for inclusion in CODIS. If your agency is in need of CODIS offender collection kits to collect such samples, please call the CODIS Unit at the Forensic Laboratory. If information regarding whether the NHSP Laboratory has entered a particular convicted offender's sample into the CODIS database is needed, the procedure for requesting that information can be found in the Department of Safety's Administrative Rules, Saf-C 6704 - Dissemination of Information in DNA Database.

➤ **Missing Persons/Unidentified Human Remains**

The CODIS database may also assist in missing persons or unidentified human remains cases. The laboratory can provide collection kits which are to be used for the collection of known samples from relatives of missing persons. These samples will be sent to an outside laboratory for analysis. Please call DNA laboratory personnel for assistance on selecting appropriate family members for DNA collection or to determine which samples from unidentified human remains or the home of a missing person may be best suited for DNA analysis.

➤ **Touch DNA Policy**

The DNA Laboratory generally will not analyze touch DNA evidence. Typically this includes items which have only been casually contacted by the perpetrator, or are in general use by someone other than the perpetrator. For example, steering wheels from stolen cars, door handles or items which may have been touched by a perpetrator generally do not leave sufficient DNA for analysis by the NHSP laboratory. The laboratory can facilitate sending such samples to a private laboratory for analysis, if desired. The laboratory will, however, test items for wearer DNA, such as clothing, eyeglasses, hats, etc., which have been in common use by a perpetrator and left behind at a scene. Contact the laboratory for a full copy of the Touch DNA policy.

BREATH ALCOHOL CALIBRATION UNIT

Unit Scope

- Repair and calibrate all Intoxilyzer units
- Train and certify all law enforcement officers in the use of the Intoxilyzer units
- Evaluate and approve all preliminary breath testers (PBTs) used by law enforcement
- Recalibrate and certify all PBTs used by law enforcement and Department of Corrections personnel
- Provide assistance to agencies regarding any issues related to breath alcohol testing
- Provide training to Department of Corrections personnel in procedures for proper PBT use

Special Considerations

- **Calibration/Repair – Intoxilyzer Units**
Trained personnel from the laboratory calibrate the units at field locations every six months, perform repairs necessary to keep the units in proper working order or, if requested, replace them with loaner units until the originals can be returned to service.

To report any problems, call 223-3855. Please provide the following information: name, department or agency, date and time of problem and the details of problem (please be as specific as possible).

➤ **Intoxilyzer Operator Schools and Recertification Classes**

Original Operator Schools occur periodically each training year at Police Standards and Training (PSTC). Applications for this course should be completed following Police Standards and Training protocols. All law enforcement academy cadets will receive the Original Operator training before graduation.

Operators must take a new course and be recertified each year. Operator recertification classes are scheduled through the Forensic Laboratory; call 223-3855 to schedule a time and date. Classes are held at 0900, 1030, 1230 and 1400 hours each day of recertification at PSTC. Recertification dates can be found in the PSTC catalog and on their web site. Recertification classes are also held at 1030 and 1300 hours at Troop F in Twin Mountain, the Keene Police Department and at the Newmarket Police Department.

Schedules are sent to each agency the summer before a training year starts. If the annual training is not taken and the certification expires, the operator has an additional one year grace period in which to become recertified or the operator must retake the original course. **The operator cannot run tests during the grace period.**

➤ **Preliminary Breath Testers (PBTs)**

PBTs are dropped off at the Toxicology Laboratory for recalibration and certification. Any repairs under the manufacturer's warranty will be performed by the Breath Alcohol Calibration Unit. Any repairs not covered by warranty will be the responsibility of the submitting agency. Once a PBT is ready to be picked up, the agency will be notified. PBTs are picked up from the Criminalistics Evidence Control Unit.

➤ **Supplies**

Breath testing supplies can be obtained through Central Equipment, Inc., 800-472-7747 (www.central-equipment.net), CMI, Inc., 866-835-0690 (www.alcoholtest.com) or Intoximeters Inc. 314-429-4000 (www.intox.com).

Captured sample bags and labels are available at the Department of Safety, Equipment Control Warehouse, 223-3000.

DIGITAL EVIDENCE UNIT

Unit Scope

- Preserve, acquire and recover data from media containing digital evidence in criminal cases
- Recover data that has been deleted, hidden or altered
- Access encrypted data, recover passwords and/or circumvent schemes designed to prevent access
- Verify and validate digital information and the integrity of the original media
- Provide consultation to agencies regarding computer crime and seizure techniques, including customized training on crime scene processing of computers and other related digital evidence

Types of evidence include:

- desktop and laptop computers
- cell phones or similar mobile devices
- network systems
- memory cards, USB flash and memory drives
- digital & video cameras and similar devices
- CDs, DVDs, and Blu-Ray Discs
- other data storage media

Special Considerations

- **Required Documentation**
Prior to any laboratory analysis, a copy of the search warrant must be provided to the Forensic Laboratory. A Digital

Evidence Examination Request Form should be completed and submitted with the evidence. Also, provide documentation as to what information you hope to obtain from the examination. Be as specific as possible.

➤ **Encryption**

Encryption is becoming more commonplace. Some common encryption programs are Filevault, Bitlocker and Truecrypt. Even though some methods of breaking or bypassing encryption exist, the investigator should not count on these methods. Every attempt should be made to obtain the password and details about the encryption setup from the user or owner. If you believe the computer or device is encrypted or protected, contact the Digital Evidence Unit for assistance prior to shut down.

Extent of Workup

Devices submitted for digital evidence examination are processed for information that is sought by the investigators by performing device extractions and/or device imaging and data analysis.

If multiple exhibits are seized, please submit only the device believed to contain the information you seek; more submissions can be made at a later time, if necessary.

In cases with multiple exhibits, analysis may be discontinued once the information sought has been located on one or more exhibits.

DRUG CHEMISTRY UNIT

Unit Scope

- Examine submitted material for the presence of controlled drugs
- Provide DEA trained clandestine laboratory chemists to assist with clandestine laboratory scene processing and/or assessment
- Destroy drug evidence for New Hampshire State Police and other State of New Hampshire law enforcement agencies upon request
- Assist other departments in setting up an evidence destruction program

Types of evidence include:

- Suspected drug material (e.g., plants, vegetative matter, powder, tablets, liquid)
- drug paraphernalia
- other items suspected of containing controlled drugs

Special Considerations

➤ **Administrative Notes**

On the “Offense” line of the DSSP 20, the specific charge(s) should be written. Avoid general terms such as “acts prohibited” or “318.B”. In particular, it is important to distinguish between sale, straight possession and possession with intent to sell, as the extent of workup in the case is determined by the charge.

Evidence from misdemeanor drug cases should only be brought to the laboratory **after** arraignment and once it is determined the case will be proceeding to trial.

On the “Check For” line of the DSSP 20, the drug name may be written (e.g., marijuana, cocaine, heroin) or simply “controlled drug” or “controlled substance”. In the case of marijuana samples do not use terms such as “THC” or “Cannabis sativa”.

Body-packed contraband poses a biohazard. **Please note** on the evidence exam form if the evidence was once located in a body cavity (including the mouth).

➤ **State Police Drug Destruction**

Division personnel must notify the Forensic Laboratory in writing upon completion of all court action pertaining to the case (email notification is acceptable). The notification should include the following information at a minimum: Department case number, the names of all the defendants in the case and a statement permitting the laboratory to destroy the evidence. The laboratory will then obtain the court order authorizing destruction. The laboratory will send a “Return Certifying Disposition of Evidence” to the troop commander after the drugs have been destroyed.

➤ **Clandestine Laboratory Evidence**

Clandestine lab evidence can be extremely hazardous in nature and should not be handled without consulting with a DEA certified clandestine laboratory chemist. If a clandestine laboratory (e.g., methamphetamine lab, mushroom grow) or suspected dump site is located, contact the DEA for further instructions. A DEA clandestine laboratory team may be sent to the location to assess the scene and collect evidence. Any evidence collected for potential submission to the laboratory must be screened by or at least discussed with a DEA certified

clandestine laboratory chemist to determine appropriate packaging and suitability for submission.

➤ **Poisoning and Food/Product Tampering Cases**

In general, cases in which the suspected contaminant is a controlled drug will be handled by the laboratory. The laboratory can document the presence of a controlled drug in a sample; however, if the investigation requires the drug to be quantitated (i.e., how much of the drug was in the sample) it will need to be sent to an outside laboratory for that service. An analyst in the laboratory can help to facilitate that process. If a poison or contaminant other than a controlled drug is suspected, laboratory personnel can assist in finding an alternate laboratory for analysis of the sample.

➤ **Untimely Death Cases**

Drug evidence from untimely death cases will only be analyzed when a charge of **sale of a controlled drug with death resulting** will be pursued and a suspect has been identified. Before any evidence is submitted, the supervisor of the drug analysis section must be contacted to discuss with the lead investigator and prosecutor which evidence will be the most probative to the case.

Extent of Workup

Samples are analyzed to determine the presence of controlled drugs for criminal prosecution. The laboratory does not have procedures in place to quantitate samples (i.e., determine the purity or percent composition) or to compare one sample to another.

Per Laboratory Safety Policy, hypodermic syringes will only be analyzed when there are no other **felony-level** drug items documented in the case.

➤ **Simple Possession**

Only one item containing a weighable quantity of each drug type will be analyzed (e.g., one suspected Cannabis-type exhibit, one suspected cocaine exhibit). Anabolic steroids and synthetic Cannabinoids are considered to be a single drug type.

The laboratory will not test separate items suspected to contain the same drug type to support additional charges of possession and/or transportation of the same type of drug.

Items containing residues (including pipes with charred or partially charred material) or tablet fragments will not be analyzed if a schedule I, II or III controlled drug has already been documented in the case.

If there is more than one suspect in the case and a particular item can be linked with a particular suspect, please indicate so either on the evidence or on the submittal form. The laboratory will make every effort to analyze one item of each drug type to the extent indicated above for each suspect listed in the case.

➤ **Sale or Possession with Intent to Sell**

The laboratory will perform an analysis on all exhibits containing weighable quantities of materials.

The laboratory will not analyze pipes, partially-burned cigarettes, scales, tablet fragments, or any other items containing residues in these cases.

If an exhibit consists of multiple packages of the same type containing approximately the same amount and type of material, the analyst will randomly select a set number of packages from the total amount which will be weighed, analyzed and reported. The actual or estimated total weight of

material contained in all the packages from the exhibit will be reported.

➤ **Tablet cases**

Non-controlled prescription or over-the-counter tablets will be counted, weighed and visually identified by logo match. If a prescription tablet is the only item in the case, a presumptive test will be performed on one tablet if a known reference is available.

All controlled tablets will be counted, weighed and visually identified by logo match. One tablet representing the highest scheduled tablet type in the case will be analyzed and confirmed unless a schedule I, II or III controlled drug has already been documented elsewhere in the case.

For sale or intent to sell controlled tablets, the laboratory will count, weigh, and analyze one of each controlled tablet **type** (based on logo) submitted in the case. Any non-controlled tablets will be counted, weighed and visually identified by logo match.

➤ **Plant cases**

For plants that are submitted to the laboratory, the laboratory report will identify whether or not the vegetative material is marijuana and will report a total weight. The laboratory will not enumerate or identify the material as “plants”, with the exception of federally prosecuted cases.

FIREARMS/TOOLMARKS UNIT

Unit Scope

- Examine firearms for function and safety
- Perform test firing in order to obtain known projectiles, cartridge cases or shotshells
- Compare test fires with evidence projectiles, cartridge cases or shotshells
- Examine fired projectiles and/or cartridge cases to determine caliber, make and type of weapon involved
- Examine exhibits for shot pellet spread or the presence of propellant residues to determine firing distance
- Process at the scene for shooting reconstruction/bullet trajectory determination
- Restore obliterated serial numbers
- Perform toolmark examinations
- Perform physical match examinations of various broken, torn or cut items
- Examine glass and plastics evidence for comparisons and fracture matches

Types of evidence include:

- firearms
- projectiles
- cartridge cases
- shotshells

- tools and/or toolmarks on various objects (e.g., safes, doors)
- clothing and other items that may contain gunshot residue
- items that may contain obliterated serial numbers (e.g., vehicles, equipment, tags, firearms)
- broken, torn or cut items (e.g., duct tape, headlamp assembly, large paint chips, copper pipe)

Special Considerations

ALL firearms **must** be treated cautiously, as if they were loaded. **WHENEVER POSSIBLE**, firearms should be disarmed and unloaded prior to submission to the Forensic Laboratory. If this is not possible, the firearm must be carefully labeled as such.

Discharged bullets, cartridge cases and shotshells will not be examined for association back to a particular box of ammunition.

Bullets will not be routinely examined for association back to a particular discharged cartridge case.

Shot pellets will not be examined for association back to a particular shotgun.

Test fired ammunition components generated by the examiner will be repackaged with the firearm from which the test fires were made. It may be necessary for ammunition submitted in a particular case to be used for test firing purposes in that same case.

When a questioned tool is recovered in proximity of toolmarks at a scene, toolmark examinations will only be conducted following the successful association of a person to the tool (e.g., DNA or latent print identification).

Casts generated by the examiner will be repackaged with the exhibit or evidence from which the test exemplar mark/defect was created.

Muzzle to Target Shooting Distance Determination testing is conducted only when the suspect firearm is available. Additionally, it is recommended to use ammunition from the scene, if available. If ammunition needs to be purchased for testing purposes, it should be from the same lot number as the scene ammunition, if known.

Products of distance determination examinations (e.g., powder patterns, Griess sheets) generated by the examiner will be packaged as a new exhibit and returned to the investigating agency along with the evidence containing the questioned bullet defect/residues.

Primer gunshot residue (pGSR) is not analyzed by the Firearms Unit. This evidence typically includes sampling of the palms and backs of the hands of a subject. It can also include clothing or other surfaces believed to be in the near proximity of the discharge of a firearm. The laboratory can provide information to an investigating agency on how to submit samples directly to a private laboratory for analysis, if desired. The cost of the analysis will be the responsibility of the investigating agency or prosecuting office.

The Forensic Laboratory does not provide BAFTE Trace Requests. It will be the responsibility of the investigating agency to submit a firearm Trace Request directly to the Bureau of Alcohol, Tobacco, Firearms and Explosives (BATFE) - National Tracing Center.

Regarding overall and barrel length measurements of firearms, the expanded uncertainty and confidence interval associated with length measurements of a firearm shall be reported when:

- a rifle barrel length is less than 16 ½ inches
 - a shotgun barrel length is less than 18 ½ inches
 - a rifle or shotgun overall length is less than 26 ½ inches
- **Integrated Ballistics Identification System (IBIS) database**
The purpose of the IBIS database is to provide investigative information. The Firearms Unit does not have the capability to enter and search images of discharged bullets, cartridge cases or shotshells. However, the laboratory can provide information to an investigating agency on how to submit samples directly to the Bureau of Alcohol, Tobacco, Firearms and Explosives (BAFTE) for entry into the IBIS system and searching of the appropriate state, regional or national database(s).

Extent of Workup

➤ **Physical Match**

If numerous pieces of a broken, torn or cut item are submitted, examination may cease once a positive association has been made. For example, if multiple pieces of broken plastic from a hit-and-run scene are submitted, the physical match examination may end when an identification between one piece of broken plastic and a recovered vehicle headlamp assembly has been established.

➤ **Gunshot Residue**

GSR Powder Pattern testing is typically conducted only on the outer most layer of clothing. These exhibits should be labeled as such upon submission to the laboratory.

IDENTIFICATION UNIT

Unit Scope

- Process evidence brought to the laboratory to develop/preserve fingerprints, footwear, tire, fabric, indented writing and/or other latent impressions
- Process at the scene to develop/preserve fingerprints, footwear, tire, fabric and/or other latent impressions
- Compare latent finger/palm impressions to known impressions
- Compare questioned footwear and tire impressions to known footwear and tires
- Examine and compare fabric impressions
- Process items to develop indented writing
- Obtain inked impressions from decomposed or otherwise deteriorated fingers of deceased individuals
- Identify unknown deceased persons by fingerprints
- Search finger and palm prints through the Tri-State (ME, NH & VT) and FBI (National) AFIS systems

Types of evidence include:

- items that may contain latent prints (varies greatly)
- latent lifts
- photos or items from a scene which may contain fingerprints, footwear, tire, and/or other latent impressions
- items suspected of bearing indented writing
- known inked impressions of suspects for identification purposes

- known inked impressions of victims or other individuals for elimination purposes
- questioned impressions made by footwear and/or tires
- suspect/elimination footwear and/or tires
- known impressions from footwear and/or tires
- digits/hands of deceased individuals

Special Considerations

The Identification Unit requires an individual's SID or full name and date of birth in order to search State Police Criminal Records fingerprint files.

Known footwear or tire tracks must be submitted with questioned impressions for comparison. Questioned impressions alone will not be accepted.

The laboratory does not have the capability to enter and search images of unknown footwear impressions through a footwear outsole database (e.g., SICAR, SoleMate). However, the Identification Unit can provide information to an investigating agency on how to submit outsole images directly to a third party for searching.

Lifts, casts and other work product generated by the examiner will be repackaged with the evidence. These items may have to be resubmitted if additional requests for comparisons are made after the return of the evidence to the investigating agency.

It is the responsibility of the investigating agency to indicate if a particular item is to be processed with nondestructive methods. In instances where blood is on an item of evidence, the investigating agency will have to choose whether the evidence is to be processed for latent impressions or blood impressions.

Extent of Workup

➤ **Fingerprints and Palm Prints**

Unknown latent impressions will not be compared to other latent impressions for purposes of establishing identity.

AFIS searches are conducted only after the unidentified impressions have been compared against elimination impressions from the victim or others with legitimate reasons to have deposited latent impressions.

Some developed impressions, although identifiable, may be determined to be unsuitable for an AFIS search.

➤ **Footwear and Tire Tracks**

When there are many footwear impressions from a single donor present at a crime scene, the best impression(s) will be chosen by the examiner for comparisons to known footwear.

➤ **Indented Writing**

Items submitted for an indented writing examination will be processed for markings only. No comparisons or interpretations will be conducted. A lift and/or photograph of the markings will be forwarded to the investigating agency. The laboratory can provide information on locating a third party for comparison and/or interpretation.

IMAGING UNIT

Unit Scope

- Examine the source, location, time and date provided on photographic evidence to determine when an image was taken
- Prepare stills from videotapes and digital surveillance media
- Repair, restore or retrieve video images for playback and examination
- Provide duplication of video and video documentation services (agencies must provide blank media)
- Provide crime scene processing photography services
- Perform specialized photography requests, including producing enlarged B & W or color photographic images for use in courtroom presentations
- Serve as a resource for education, training and consultation on photographic techniques and equipment
- Provide digital photography services
- Perform forensic video analysis examinations

Types of evidence include:

- videotapes (personal, security surveillance, etc.), CD-R and DVD-R disks (personal, security surveillance, etc.) and, if necessary when field recovery of video surveillance evidence is not possible, DVR Recorders
- photographs
- cameras

- processed photographic negatives
- digital photographic storage media and cameras

Special Considerations

For special requests, please call the Imaging Unit at the laboratory.

TOXICOLOGY UNIT

Unit Scope

- Identify and quantify the presence of alcohol and/or drugs in blood or other body fluids obtained from suspects or victims involved in impaired driving, postmortem cases, sexual assault or other criminal investigations
- Identify and quantify the presence of ethanol in beverages
- Identify the presence of drugs in urine samples from individuals under the supervision of the NH Department of Corrections (DOC)
- Assist police departments or other state agencies in sending out biological specimens to reference laboratories in cases of drug-impaired driving or drug-facilitated sexual assault

Types of evidence include:

- blood, serum/plasma
- urine
- vitreous fluid
- beverages

Blood Testing Categories

- **Alcohols/Volatiles** (e.g., acetone, ethanol)
- **Amphetamines** (e.g., Adderall, Ecstasy)
- **Barbiturates** (e.g., Luminal, Fioricet)
- **Benzodiazepines** (e.g., Xanax, Valium)
- **Buprenorphine** (Subutex, Suboxone)
- **Cannabinoids** (e.g., delta-9-THC)

- **Carisoprodol** (Soma)
- **Cocaine**
- **Fentanyl** (Actiq, Duragesic)
- **Ketamine**
- **Methadone** (e.g., Dolophine, Methadose, Intensol)
- **Opiates** (e.g., Codeine, OxyContin)
- **Zolpidem** (Ambien)

Urine Testing Categories

- **Amphetamines** (e.g., Adderall, Ecstasy)
- **Barbiturates** (e.g., Luminal, Fioricet)
- **Benzodiazepines** (e.g., Ativan, Restoril)
- **Benzoyllecgonine** (metabolite of cocaine)
- **Buprenorphine** (Subutex, Suboxone)
- **Delta-9-carboxy THC** (metabolite of THC)
- **Ethanol**
- **Fentanyl**
- **Methadone** (Dolophine, Methadose, Intensol)
- **Opiates** (e.g., Codeine, OxyContin)

For a current list of offerings, please contact the Toxicology Unit.

Special Considerations

The proper collection and submission of specimens for toxicological analyses is extremely important if analytical results are to be accurate and subsequently interpreted in a scientifically sound manner. Guidelines to prevent the loss, contamination, and/or degradation of specimens submitted to the laboratory for testing are described starting on page 71. These guidelines are applicable to law enforcement dealing with alcohol and drugged-driving cases as well as investigations by the Medical Examiner. It

is always advisable to contact the laboratory for assistance and/or guidance regarding the collection of biological evidence when there is any question regarding the correct procedures to use.

Extent of Workup

A positive screen result is required for any confirmation testing to be completed by the laboratory.

➤ **DUI cases**

Where alcohol and drug testing is requested, alcohol analysis will always be performed first. If the sample is determined to have a concentration of ethanol greater than or equal to 0.10 g/100ml, the sample will not go on for further drug testing. Further drug testing may be authorized through an additional notification to the laboratory.

When multiple draw times are available for testing the laboratory will analyze all draw times for alcohol/volatiles. Drug testing will be performed on the earliest drawn sample only.

➤ **DOC Urine specimen**

Confirmation testing will be done on all positive screen results that are not definitively attributable to a prescribed medication.

TRACE EVIDENCE UNIT

Unit Scope

- Analyze fire debris for the presence of ignitable liquids (possible arson)
- Examine hair samples for suitability for DNA analysis
- Examine textiles (e.g., fabrics, carpeting, cordage) and other fiber based evidence for identification and comparisons
- Examine lamps for functionality and lamp filaments for “on” or “off” condition at impact/breakage
- Examine and compare paint and plastics from automobiles, buildings, tools, etc.
- Evaluate dental records for NCIC entry

Types of evidence include:

- fire debris
- suspected ignitable liquids
- hairs
- clothing, fabric, carpeting, upholstery, rope, twine fibers
- vehicle lamps
- vehicle paint and plastic samples
- architectural paint samples

Special Considerations

Trace evidence will always involve very small pieces of material. Packaging must be done carefully, so as to not risk loss of any material through seams, staple holes, etc. For any packaging

requirements that are not clearly outlined in this document, police departments are encouraged to call the Trace Evidence Unit at the laboratory for further assistance.

Extent of Workup

➤ **Ignitable Liquids**

Ignitable liquids are reported using the classification scheme described in ASTM E-1618. Specific products cannot be identified due to the nature of the analysis, the prevalence of petroleum fractions in commercial products, and the frequency with which product formulations change.

If a suspect liquid is submitted along with debris, the report will indicate whether or not the liquid and the debris contain ignitable liquid(s) in the same classification.

A specific request must be made to have a sample analyzed for the presence of light oxygenated compounds (e.g., alcohols, acetone) in addition to, or instead of, a standard ignitable liquid request. Light oxygenates are extremely volatile and disappear quickly during a fire. Additionally they are generally water soluble and are easily washed away during fire suppression. The analysis used to detect these compounds involves a process which may encourage loss of “traditional” petroleum-type products that may be present in a sample. All these factors should be considered before this type of analysis is requested.

Negative results do not preclude the possibility that ignitable liquids were present at the fire scene.

➤ **Paint**

In general, an analysis will be performed on at least one questioned (victim source) and one known sample (suspect source).

When multiple questioned and known paint samples are submitted, the analyst may prioritize which samples to examine based upon various factors including the quantity and quality of the sample, the availability of appropriate reference samples for comparison and the probative value of the association. The analyst may contact the investigator to obtain additional case information for selecting an analysis plan.

Requests for paint analyses are considered complete when and if a positive association is established or when all submitted samples have been analyzed.

➤ **Hairs**

Requests for hair analyses may not be honored if the victim and suspect routinely share a common environment or if the legal issue in question is one of consent.

Hair evidence encountered during serological examinations for body fluid stains (including Pubic Hair Combing collected during sexual assault examinations) is not routinely forwarded to the Trace Evidence Unit for examination. Therefore, the analysis of hair evidence must be specifically requested.

Hair evidence will often only be examined after all other forms of biological evidence (e.g., blood, semen, saliva) have been tested and the results of that testing are either negative or fail to successfully show an association between the victim and the suspect, between an individual and an object (weapon, etc.), or between an individual and a location (crime scene, etc.).

When multiple items are submitted, the examination of the evidence may be prioritized in such a way that the analysis of some items may be postponed upon the discovery of hair(s) potentially suitable for DNA analysis on any one item. For example, if multiple items pertaining to a sexual assault victim are submitted, examination of hairs from the victim's bedding may be suspended once hair(s) from the suspect is\are found on the victim's clothing.

Requests for hair analyses are considered complete when and if a positive association is established or when all submitted samples have been analyzed.

➤ **Fibers**

Textile fiber examinations are often conducted for the purpose of showing associations or recent previous contact between subjects, objects or locations. Therefore the submission of representative samples of known fiber sources (e.g., clothing, carpeting, cordage) is required for meaningful comparison purposes.

Requests for textile fiber analyses may not be honored if the victim and suspect routinely share a common environment or if the legal issue in question is one of consent.

When multiple questioned and/or known fiber samples are submitted, the analyst may prioritize which samples to examine based upon various factors including the amount of sample, the availability of appropriate reference samples for comparison and the probative value of the association.

Requests for fiber analyses are considered complete when and if a positive association is established or when all submitted samples have been analyzed.

➤ **Lamps**

All vehicle lamps submitted to the laboratory will be the subject of an examination with preference given to head lamps, tail lamps and turn signals for cars, trucks and motorcycles.

All marine lamps submitted to the laboratory will be the subject of an examination with preference given to lamps from the bow, stern and any other navigational lamps.

Investigators are encouraged to submit lamps regardless of condition. Damaged lamps can often provide useful information.

CRIME SCENE PROCESSING

General

In most cases, local police or state police will collect evidence.

Forensic Laboratory personnel may be available to assist in the processing of crime scenes in cases involving:

- clandestine drug laboratories
- latent prints
- impressions (e.g., footwear, tire track)
- bloodstain pattern documentation
- serology/body fluids
- trace evidence
- digital evidence
- bullet trajectory/shooting reconstruction

To request technical assistance from the Forensic Laboratory, contact the Laboratory Director.

A clandestine drug laboratory should **NEVER** be evaluated without the assistance of professionally trained officers and DEA certified chemists.

Choosing Containers for Evidence Collection

Appropriately sized containers should be chosen based on the size of the evidence; however, containers must be at least large enough to accommodate the laboratory's 1" x 4" barcode label. Please also allow space for laboratory personnel to open packaging, retrieve evidence, reseal and mark the outer packaging (preferably in a location separate from original seals).

➤ **Wet/Damp evidence**

Damp, biological or wet matter should **NEVER** be packaged in plastic since it will promote the growth of bacteria and fungus, which will deteriorate the quality of the evidence. This evidence must be thoroughly air dried prior to packaging in paper bags.

Exception: Evidence containing suspected ignitable liquids must be packaged AS IS (wet or dry) and **immediately** in sealed containers as described in Evidence Specific Collection Instructions.

➤ **Small evidence**

Paper bags and envelopes may not be completely sealed by the manufacturer and accordingly may not be suitable as purchased for packaging very small items of evidence (e.g., hairs, fibers, paint chips, glass fragments, powders, blood scrapings). Therefore, this evidence should be prepackaged in a druggist fold, secondary envelope or plastic bag. All biological materials, including hair evidence, must be packaged in paper containers. If large items bear trace evidence, the seams of any outer packaging must be sealed with evidence/tamper-evident tape to prevent any loss.

➤ **Large evidence**

Paper bags or wrapping can be used for large items, garments and other non-sharp or non-fragile evidence. It may be preferable to isolate and protect the area to be examined rather than wrap an entire object (e.g., tape white paper over an area of suspected latent prints with tamper evident tape).

➤ **Fragile evidence**

Evidence that is delicate, such as light bulbs and windows, must be placed in rigid containers. **Do not** use tissue paper if the evidence is to be examined for latent prints.

➤ **Sharp Evidence**

Knives and other larger sharp items must be placed in a puncture-proof container and secured by ties within that container. Wrap broken glass or sharp metal objects in paper and then place them in a cardboard box. Do not use tissue paper if the evidence is to be examined for latent prints.

Do not submit razors used to collect bloodstains.

Do not submit broken ampoules used for field tests on drug evidence, as the acid inside the ampoule destroys the evidence and poses a hazard to the examiner and police personnel.

➤ **Hypodermic needles/syringes**

Hypodermic needles/syringes **MUST** be placed in a rigid, puncture proof, plastic “sharps” tube.

➤ **Liquid body fluid or tissue samples**

Liquid blood and other potentially infectious materials should be collected in rigid containers that do not leak. The primary container should then be packed in material that cushions it from breaking (e.g., Styrofoam, bubble wrap) and placed into a secondary container that will prevent leakage should the primary container break (e.g., Ziploc[®] bag).

Urine should be frozen immediately after collection and remain frozen until brought to the lab in an insulated container to prevent thawing. Urine samples collected for sexual assault cases should never be packaged together with a rape kit (i.e., sealed in the same paper bag for submission).

Any liquid body fluid sample or tissue sample must be submitted as a unique exhibit.

Marking and Sealing Containers

The laboratory requires that each exhibit be properly sealed and labeled prior to acceptance. A proper seal is one where the evidence cannot escape or be contaminated or altered without apparent damage to the seal or packaging. Tamper evident tape, heat seals or other tamper evident seals must be used, and the responsible individual **must initial/sign** the seal. Cellophane tape, staples, packing tape, etc. alone **are NOT** acceptable sealing materials. Evidence sealed in this manner will need to be properly sealed prior to acceptance into the laboratory.

Do not fold the outer packaging material numerous times around the evidence before sealing. Keep in mind that laboratory personnel must be able to access the evidence by making one cut or opening in the packaging, while still maintaining any seals that are already in place.

Prior to acceptance at the laboratory, the outer packaging must be labeled with the agency case number and exhibit number. These identifiers must match the information contained on the Evidence Examination Request form (DSSP 20). Whenever possible, a one inch space should be left at the top of the package for laboratory marking purposes once it is brought to the forensic laboratory. Additional markings may be necessary, as follows:

➤ **Biohazardous Evidence**

Evidence should be marked with the international BIOHAZARD symbol when it is suspected or known that the following may be present:

- Liquid or dried blood

- Other body fluids - semen, saliva, urine, vaginal fluid, fecal material, and hypodermic needles in contact with body fluids
- Body packed contraband
- **Fragile Evidence**
Evidence that is delicate, such as light bulbs and windows, require FRAGILE warnings on the outermost packaging.
- **Sharp Evidence**
Evidence that is sharp, such as broken glass and bent metal, require SHARP warnings on the outermost packaging.
- **Chemically Treated Evidence**
Evidence items that have been chemically processed prior to submission, such as ninhydrin on paper, should be marked CHEMICALLY TREATED on the outermost packaging.

Evidence Specific Collection Instructions

Biological Evidence

➤ **Collection of Buccal Swabs (known reference samples)**

Known buccal swabs from victims and suspects should be submitted for comparison purposes if DNA analysis is requested. Elimination samples may also be necessary (e.g., consensual partner).

To collect buccal swabs, place two sterile cotton (not synthetic) swabs inside the individual's mouth and rub them firmly on the insides of the cheeks. Rotate the swabs so that all surfaces of the swab come in contact with the cheek lining cells. Allow the swabs to dry, and place the swabs into a paper swab sleeve, swab box or envelope. There is no need to package swabs from the left and right sides of the mouth separately. Seal and label the package appropriately. **DO NOT** use CODIS Offender Collection kits for the collection of suspect known samples.

➤ **Collecting stains with sterile swabs**

The following items are needed for the collection of bloodstains:

- sterile or distilled water (may be purchased at a pharmacy)
- individually wrapped sterile cotton swabs
- disposable sterile plastic droppers or dropper bottle
- paper envelopes or individual swab boxes

Prepare "single use only" sample size vials of water. **Use each vial for one scene or area and then discard it.** This reduces the risk of contamination of the water between multiple scenes. Change gloves between examination and collection of **each** exhibit to avoid cross-contamination. Only touch the wooden

shaft when opening a packet of cotton tipped swabs. Use one or two dry sterile swab(s) to collect **wet** stains. For **dried** stains, lightly moisten a swab(s) with sterile water prior to rubbing in on the stain for collection. When collecting a very small stain from a surface, be sure to use a small portion of the swab to rub the stain. This will allow the stain to be concentrated in one spot on the swab. For heavier stains, distribute the sample over the swab head.

Allow the swabs to air-dry. A small box with holes punched in the top can be used by placing the wooden swab shaft into a hole in the box, making sure that the swabs do not touch one another. Once the swabs are dry, place them into a paper envelope, swab sleeve, or swab box. Label and seal the exhibit appropriately. Do not put swabs into plastic swab tubes, as condensation forms in the tubes which can harm the DNA. It is not necessary to collect control swabs.

If a stain/swab has been tested with LCV at the scene, it is important that you notify the laboratory, either on the DSSP 20 or on the evidence packaging.

➤ **Blood soaked materials**

Allow the material to dry before packaging the item. Prior to packaging, photograph any bloodstain patterns on larger items using forensic photography techniques. Document any visible stain patterns present and any visible damage to fabrics (e.g., cuts, tears, abrasion). If it is not possible to allow the item to dry at the scene as is, then it is advisable to cut out any suspected bloodstain patterns present and allow that portion to dry in a box or other form of packaging which will not alter the pattern. Folding wet, bloody evidence will change the patterns and the ability to accurately document the bloodstain patterns present at a later time. Wet items must never be packaged in plastic. Package clothing that includes damp soil or other potentially

loose debris into a brown paper bag that has been thoroughly taped along the bottom seams to prevent loss of trace evidence. Smaller items with loose debris require that the corners and seams of the envelopes and bags be taped to prevent loss of evidence.

➤ **Evidence from skin surfaces**

Using a sterile cotton swab slightly moistened with sterile water, swab the skin surface where it is believed that a body fluid may have been deposited. This can be done on the shaft of a penis whereby the victim's vaginal or anal cells would be detected. Bite marks or areas of oral contact may be gently swabbed for the presence of cells and saliva.

➤ **Condom evidence**

Condoms should never be submitted in a bag with the condom wrapper (even if semen is not visible). This may cause contents of the condom to contaminate the wrapper and destroy the opportunity to develop latent prints on the wrapper. A sterile cotton swab may be used to collect a suspected semen sample from the interior of the condom for submission. When possible, properly dry the condom prior to submittal.

➤ **Fetal tissue**

For cases regarding products of conception, it is best to wait until at least 6 weeks gestation, if possible. When the sample is collected, it should be placed into a sterile specimen container (such as a urine cup) **without** any preservatives. The sample should be stored frozen until it can be transported to the laboratory. Mother and/or suspect buccal samples must be submitted with the fetal sample for DNA analysis. Forensic paternity or kinship cases will be sent to an external laboratory for analysis.

➤ **Bloodstain pattern evidence**

Document the patterns using forensic photography techniques and sketches. A ruler or scale must be included in the photographs. If a body is present at the scene, carefully photograph the relationship of the stain patterns to the orientation of the body. Photograph the body prior to movement (overall and close up) as the bloodstain patterns can be changed and/or lost once the body is moved. Bloodstain patterns on non-porous surfaces (e.g., walls, rubber mats) can crack or flake causing deleterious changes to the pattern affecting interpretation. Document patterns found on clothing, bedding and the surroundings of the individuals involved. Look closely for fine mists which may not be as apparent as larger blood deposits.

Photographs taken should include:

- Overall shots to show orientation and overall patterns formed
- Close up shots taken perpendicular to the pattern with a scale present
- Close up 90° angle (distance of 2 feet or less) shot of pertinent stains from which calculations may be made. For orientation purposes, it is recommended that a level line parallel to the floor be drawn below the spatters using a yardstick or ruler tape. Any deviation from a 90° angle will impede the ability to make accurate calculations from the photograph due to angle distortion.

Digital Evidence

The following items are needed for the collection of computer evidence:

- cable tags, stick-on labels and markers
- metal containers, envelopes, Faraday bags, paper bags and/or anti-static bags
- camera, evidence tape
- boxes for small fragile items and packing boxes
- computer tool kit, including a flashlight
- appropriate search warrant or consent, list of contacts for assistance

If possible, either through an informant, surveillance or intelligence gathering, the investigators should identify the number and type of computer systems used. If possible, identify the operating systems being used (e.g., Macintosh, Windows, Linux) and any type of security systems being used (e.g., home, building, hardware, software) or external communications or network connectivity devices.

Remember to document everything.

➤ **Secure the evidence**

The person assigned to secure the computer area should enter the crime scene immediately after or with the entry team to protect and secure the integrity of any evidence present. Trained personnel should be the only people accessing the computer during the execution of the warrant. Wear gloves so that any latent fingerprints, DNA or other physical evidence present will not be disturbed. The team should secure the area surrounding the computer immediately and remove all people without delay. **DO NOT** allow anyone to touch, shut off or otherwise access the computer or device during the execution

of the search. However, if it is apparent that a data destructive program has been launched, **immediately** pull the power cord from the back of the system. Take care not to disturb the surrounding area.

➤ **If the computer is running**

If you are unsure of what to do get help. Under certain circumstances and conditions, it may be possible or even necessary for trained personnel to attempt a memory dump or create a live image before disconnecting the power. Pulling the power cord from the back of the system is the preferred method. If it is a networked system, call the lab for assistance.

➤ **Take photographs**

Photograph all sides of the computer and all peripherals, including detailed photographs of all cable connections and the work area. Take a picture of the monitor screen if the computer is running, and if a screen saver is running, take a picture of the screen saver, then interrupt it (mouse movement or press the shift key) and take a picture of the present screen. Then pull the plug.

➤ **Secure the computer**

DO NOT touch the power switch—instead pull the power plug at the back of the system. If the computer is connected to a network router or a cable, disconnect the cable at the wall and place evidence tape over the missing connection and label/initial it. Place evidence tape over the power connector and over any screws which hold on the computer housing or tape the housing itself. The computer case is the “box” that contains the evidence. Seal it with evidence tape.

Laptop computers should be packaged in paper bags. Laptop bags or cases are not recommended.

➤ **Label everything**

Label all computer and cables clearly indicating each “to” and “from” connection (colored tape works well for labeling). This will allow all cables to be reinstalled exactly as they were at the scene.

➤ **Seize what you need**

Ensure that all digital equipment, manuals, peripherals, cables, media, notes, resource materials, documentation and software are seized (following the dictates of your search warrant and/or plain view, as indicated). It is not necessary to submit keyboards, printers, mice or monitors to the Forensic Laboratory unless other examinations (e.g., fingerprint, DNA) are necessary or proprietary connections are used. Laptops and mobile devices may require power supplies, AC adapters or cradles to preserve the data they contain. Search the area for passwords, personal identification numbers and access codes that may be written down and taped or otherwise saved near the computer system. Ask the subject or the system users present to identify any protection or security devices or processes such as keys, encryption programs, passwords, etc. that may be helpful to you.

Electromagnetic storage media such as computer hard drives, compact flash media and memory drives **should not be** placed in plastic bags or covered with common plastic covers, since plastic could generate static electricity, which can damage computer equipment, and also allows condensation to build up. Anti-static bags or paper bags can be used.

➤ **Digital evidence interview checklist**

- establish computer ownership and determine any previous owners
- identify all current users and document computer usage
- enumerate all passwords (power on, Bios set-up)

- identify all password protected or encrypted files
- document frequency and times of use
- ascertain if the hard drive has ever been replaced
- document networks and host server locations (identify ISP, phone numbers and email account)
- document any physical access controls (door locks, building security, alarm systems, surveillance cameras)
- ask if there are any access denial systems installed or malicious programs in the vicinity of the computer
- ask if any disk wiping program has ever been used to erase data and which software program was used to do so
- document the computer capabilities of all users
- inquire if the computer is in working order
- ask if there are any other computers (such as laptops, gaming devices, mobile devices such as tablets, music storage devices, cell phones) or other storage devices (USB devices, access key devices) located elsewhere in the home, and if online remote data storage is being used
- inquire if the computer is used for business

➤ **Multiple Device Triage**

If multiple devices are found on the scene, try to determine if the type of information you seek will be found on the device. Some factors that may help determine this are:

- Where was the device located?
- Does it have wireless capability?
- What is the condition of the device?
- Was it in use at the time of seizure or incident?
- Was the device on?
- What device did the person use the most at the time of the incident?

It is important to **NOT** turn on any computers. **DO NOT** allow anyone who has not been properly trained to turn on any digital

device, computers or equipment containing digital storage media.

If more information is needed about device capabilities contact laboratory personnel.

➤ **Mobile Devices**

Mobile devices may be password-protected. If the device is on, leave it on; powering down could enable a password. If device is left on please notify the Evidence Control Unit upon submission.

If battery removal is not an option, or airplane mode is not enabled, cell phones or similar communication devices must be packaged in Faraday bags or metal cans to block wireless access.

Transport digital evidence away from all radio equipment and potential sources of magnetic resonance.

Media that stores digital information are delicate pieces of electronic equipment and should be protected from sudden shock, dirt, magnetic fields and other environmental factors.

Drug Evidence

➤ **Marijuana exhibits**

Fresh (undried) vegetative material can become seriously degraded or destroyed if packaged without first being dried. Dangerous mold spores can be produced from packaged wet material as well. Ensure all vegetative materials are completely dry before packaging for submission to the lab.

Plant submissions

It will be left up to the discretion of the individual police department after consultation with the prosecuting attorney to determine whether entire plants or a representative sampling of plant material from the crop will be submitted.

Seeds and bare stalks or stems will not be accepted for analysis.

- **Less than 100 plants** (State prosecution)
 - Document plants “as found” and again after removal from soil, showing attached roots (video or still photos).
 - Accurately count all plants.
 - Cut off roots and hang/lay plants to dry; leaves will be crisp when thoroughly dry.
 - Package plants together in as few containers as possible (e.g., lawn & leaf bag, computer box).
 - Do not submit roots.
- **Greater than 100 plants**
 - Check with the prosecutor ASAP regarding status of the case. Will it be prosecuted Federally?
 - If NO, proceed as above.
 - If YES, call the laboratory immediately. The laboratory will send a Criminalist to the scene or the police department **WHILE THE PLANTS ARE FRESH**. The Criminalist will

evaluate, get a total count and take representative samples for analysis. The total number of plants (not weight) determines the sentence in Federal cases so it is not necessary to submit all plants to the laboratory.

➤ **LSD exhibits**

Suspected LSD samples should be protected from light, since it will deteriorate the exhibit. This can be accomplished by submitting the exhibit in an appropriately labeled brown paper bag or manila envelope.

➤ **Drug paraphernalia**

Pipes, spoons, scales and other items containing residues should be packaged properly to prevent contamination (unless they are found in contact or mixed with other drug evidence). If the paraphernalia is glass, it should be packed in material that cushions it from breaking (e.g., bubble wrap, cardboard). The water from water pipes should be removed and not submitted to the laboratory.

➤ **Powders**

Powders should not be packaged loose in paper bags or envelopes as material can escape through the seams. Use plastic bags or paper folds within paper bags or envelopes.

Firearms Evidence

Identifying projectiles, cartridge cases or shotshells as having been discharged by a particular firearm is a microscopic comparative examination. The individual characteristics used for identification can be easily damaged. Therefore, firearms evidence should be collected delicately. Also, care should be taken when collecting and packaging firearms evidence so any trace evidence is not dislodged or destroyed (e.g., hairs, fibers, gunshot residue, fingerprints, blood).

➤ **Ammunition components**

▪ **Discharged projectiles, cartridge cases, shot pellets and shot wads**

Metal forceps or other sharp instruments should **NEVER** be used to remove embedded projectiles, as they may further damage the evidence. Plastic forceps are recommended for this procedure. These items may be rinsed in running water (not washed). If a projectile is embedded in wood or some other material, it should be removed exercising extreme care, or the entire area surrounding the projectile should be submitted if the projectile cannot be removed without damage. Do not change the condition of any item recovered from the scene. Do not mark the item with identifying marks, as there is a danger of damaging microscopic characteristics. The items should be collected individually in rigid containers with cotton or tissue paper to prevent the item from rolling around and the container should be sealed.

▪ **Shotshells**

Discharged and live shotshells may be marked with a Sharpie® or other soft-tipped permanent marker on the paper or plastic portion in an area where there are no manufacturer markings; however, do not mark these items if a fingerprint

examination is desired. They should be collected individually in rigid containers and sealed.

- **Live Cartridges**

Live cartridges located with a questioned firearm and/or from the immediate possession of the subject should be submitted. Do not mark the cartridges.

- **Firearms**

All firearms should be treated as if they are loaded. Note the position of the weapon and the condition of its moving/adjustable parts (e.g., slide/bolt, hammer, trigger, safeties, magazine) before it is handled. Record the caliber, make and serial number. Never place any object in the barrel. Do not clean, dry fire, test fire, take apart or work action, except to unload the weapon. Handle the firearm delicately in order to preserve any latent impressions or trace evidence.

Boxes are the best containers for packaging firearms. Immobilize submitted firearms in the box, especially if submitted for fingerprint evidence.

- **Revolvers**

Before opening the cylinder, mark each side at the top strap with a Sharpie[®] (or equivalent) or short scratch mark, making sure not to destroy possible latent prints or trace evidence. The cylinder should be opened and a diagram drawn of the back view, indicating which chamber was under the hammer. On the diagram, each chamber should be numbered, and the cartridge should be identified by its headstamp and the presence or absence of a firing pin impression. A copy of this diagram should be submitted to the laboratory. Each cartridge should be removed and placed in a manila envelope numbered to correspond with the chamber the cartridge was removed from.

- **Pistols**

The magazine should always be submitted. It should be removed and the cartridges should be left in it. Any cartridge in the chamber should be removed and put into an envelope or other container and marked.

- **Derringers**

Note which barrel each cartridge comes from. Each cartridge should be removed and placed in an appropriate container.

- **Rifles/Shotguns**

Avoid running the cartridges/shotshells through the action. They should be unloaded the same way they are loaded. The first two cartridges/shotshells should be individually packaged from the fixed magazine. The remaining cartridges/shotshells should be removed and packaged together. The cartridges/shotshells in the chamber(s) should be removed and packaged separately.

If accidental discharge is suspected, note from where or whom the firearm was recovered. Additionally, obtain a detailed statement of what the subject was doing with the firearm when it was in their possession making note of the loading sequence, number of cartridges and their position in the firearm.

If a firearm is located in a submerged condition, the type of water will dictate how to collect and package the item.

Fresh water - package the firearm submerged in a sample of the water from which it was retrieved. DO NOT expose the firearm to air or attempt to dry it off as this can cause the firearm to rust.

Salt water - remove the firearm as soon as possible and place it in oil to prevent corrosion. Render the firearm safe prior to packaging by unloading it and carefully recording the position

of the cartridges as they are removed. Package and seal removed ammunition individually. Consult the firearms unit of the laboratory if a weapon cannot be unloaded.

➤ **Clothing for bullet holes or GSR**

Clothing which may contain bullet holes or contain gunshot residues could be submitted. The sequence of wear should be noted. Care should be taken with these items, as residue can be easily dislodged. Clothing may be marked away from the bullet holes or trace evidence. If the clothing is wet it must be thoroughly dried prior to packaging to eliminate the bacterial destruction of gunshot residue which contains nitrogen compounds. Package these items in paper instead of plastic. Package all clothing separately to avoid cross contamination. Information regarding the number and location of bullet holes should be provided.

➤ **Powder tattooing (stippling) pattern**

When a bullet hole and powder pattern are in skin, a scaled photograph with no angular distortion must be submitted along with the Medical Examiner's report.

➤ **Serial number obliterations**

Firearms and other portable objects bearing serial number obliterations may be submitted in their entirety to the laboratory. When this is not possible due to the size or location of the object bearing the obliteration, the section of the object bearing the obliteration may be submitted. Package the evidence in containers that will protect the area of obliteration from further damage. A barrier may be made around the obliterated area if the item is too large to be packaged. Package the evidence carefully to ensure that trace evidence will remain intact.

Footwear and Tire Evidence

➤ **Photography**

General crime scene photographs should be taken to relate the impressions to the crime scene, but EXAMINATION QUALITY photographs should be taken to obtain maximum detail for forensic examination. Only examination quality photographs will be of evidentiary value for comparison purposes, but both types should be taken. When using a digital camera, it should be set to photograph at its highest resolution and save all images as TIFF files. When using a film camera, ISO 400 color film should be used for general photos. Black and white ISO 400 (or slower) film is better than color film to enhance the contrast for examination quality photos. A scale is required in all print/impression photographs.

The camera must be mounted on a tripod perpendicular over the impression and the film plane of the camera must be parallel to the impression. Photographs should be taken using oblique lighting. Place a linear scale next to and on the same plane as the impression, pressing the scale into the ground if necessary. Use a small aperture setting (e.g., f/22) for a greater depth of field. Impressions should be shaded in order to obtain the desired detail. Use a screen to block unwanted ambient light or direct sunlight. It is recommended to record three bracketed photos, between each of the tripod legs. The flash should be at approximately 45° for 3-dimensional prints. The entire frame should be filled by the impression and ruler. The focus should be on the BOTTOM of the impression, not the ruler.

▪ **Impressions in snow**

Photographs should be taken prior to highlighting the impression. To increase the contrast of snow impressions, lightly spray the impression with Snow Print Wax® or with

sandable primer in gray or brown only. The spray can should be held approximately one foot from the impression so the force of the aerosol does not damage the impression. A light application of spray should be directed at an angle of approximately 30-45° so that the colored paint only strikes the high points of the impression. Highlighted impressions will absorb heat from the sun and as such should be shielded until photographed and cast to prevent melting. After highlighting the impression, take additional examination quality photos and continue to casting.

➤ **Casting**

Add the proper amount of water to dental stone in a Ziploc[®] bag, close the bag and mix until the mixture is smooth and is the consistency of thin pancake batter. Open the bag and with the bag at ground level, carefully pour the mixture onto a spatula or spoon and allow the mixture to flow over the impression. Fill the impression completely so that the mixture actually overflows out of the impression. When the cast is firm but still soft, scratch initials, date and case number onto the back of the impression. Allow the cast to set for at least 30 minutes in warm weather (longer in cold) before attempting to lift it. Carefully lift the cast and do not attempt to clean it at this point. Allow the cast to air dry for at least 48 hours. Wrap the cast in paper and package carefully with soft packing materials (do not store, wrap or ship the cast in plastic materials).

For tire tracks, cast sections no longer than 2 feet each, casting as many sections as necessary to obtain the entire track. In very loose dirt or sand a dirt hardener (e.g., hair spray, lacquer or commercial dirt hardener) may have to be sprayed over the impression before casting. An impression on a slope may require a retaining wall on the downhill side to prevent the dental stone from running out of the impression.

- **Impressions in snow**

After highlighting and photographing, additional Snow Print Wax[®] or spray paint should be used to completely coat the impression by spraying from all four sides. This will protect the snow impression from melting due to the heat generated by the dental stone as it hardens. Pour COLD water into the container of dental stone and proceed as indicated above for *General impressions*. In very cold weather (below 0° F), cover the impression with a box or stack of newspapers to prevent the dental stone from freezing before hardening. Allow sufficient time for the cast to harden before attempting to lift it (colder temperatures will increase the time necessary for the dental stone to set).

- **Lifting**

Two-dimensional footwear and tire track impressions that are on a substrate that cannot easily be seized as evidence (e.g., floor, door, wall) should be lifted only after the impressions have been properly photographed. Dustmark electrostatic lifts, gelatin lifts or regular footwear lifts can be used to lift and preserve these impressions. Once a lift has been taken, it should be properly documented from where it was obtained, and marked with pertinent information. Electrostatic lifts should be carefully placed inside a manila folder and the folder taped shut before packaging it for submittal.

All papers in the area of the crime scene which the suspect(s) may have stepped on or driven over should be collected and submitted to the laboratory for questioned footwear or tire track impressions. The paper(s) should be collected individually, unless it is obvious that one impression is on more than one piece of paper. The paper(s) should be placed in a shallow box (e.g., photo paper box, pizza-style box) and secured to the box, impression side up. The box should then be covered or closed and properly sealed/initialed. If an impression is across more

than one piece of paper, the papers should be collected as one unit and secured as one unit in the box.

Imaging Evidence

➤ **Videotapes**

Original video recordings may be examined in the presence of an officer from the presenting agency. It is necessary to arrange an appointment with the photo lab for this service. Prior to submission, view recorded video surveillance evidence on its native system and identify the location(s) of pertinent video content and/or the desired image(s) on the video using recorded time/date stamps and by describing the image(s). Avoid repeated viewing, multiple fast forward or reverse functions and pausing of the tape during replay if at all possible. Cue submitted video tape evidence to a tape portion approximately five minutes prior to the pertinent video content. Do not rewind the tape to its start. Label the container “Fragile—sensitive electronic equipment” or “Fragile—sensitive audio/video media” and “Keep away from magnets or magnetic fields”. Make sure that the record protection tab is broken off of original VHS tape recordings.

➤ **DVR (Digital Video Recorders)**

Digital Video Recorders (DVRs) may be submitted for examination of recorded video surveillance evidence only in instances where field recovery of the recorded video evidence is not possible. Hard drives should not be removed from DVR units for submission as it is necessary to maintain the DVR environment to accomplish playback of the recorded video evidence. Ensure that all DVR equipment, manuals, peripherals, cables, diskettes, tapes or other media, notes, passwords, resource materials, documentation and software are seized (following the dictates of your search warrant and/or plain view, as indicated). Prior to removal from the scene the recorded video surveillance evidence must be reviewed and notes regarding the time/date stamp of pertinent video

evidence clips should be taken and submitted. DVR units should be properly powered down following review.

WARNING: DVR units left to continue to function normally in their recording environment may overwrite critical video evidence.

➤ **Digital Images**

Digital images may be compiled for examination on CD-R or DVD-R media. Files should be copied from original media with no editing, changes to files naming structure and/or alteration of original file content. Printing of limited quantities of images is available. System compatibility will dictate available services. A nominal processing fee may be charged for this service. If any item is **evidence** (e.g., found at a crime scene, seized from a suspect) then it **must be** properly packaged and submitted on a DSSP 20 as indicated elsewhere in this handbook. **ONLY** items of an evidentiary nature should be submitted.

Latent Print Evidence

If absolutely necessary, the latent print item itself can be marked directly with the pertinent case/exhibit information. The marks should be inconspicuous and in an area that would be least likely to yield prints. Evidence should not be packaged tightly as the prints could be rubbed off (unless evidence has been superglue fumed). For large objects, only the area of interest should be covered and sealed without packaging the entire object (e.g., tape a shallow box or other raised object over the impression).

➤ **Non-porous items**

It is recommended that non-porous evidence (e.g., plastic, glass, metal) be superglue fumed prior to transport to the laboratory. By doing this, the latent impressions are “fixed” to the substrate, which greatly reduces the likelihood that the prints will be rubbed off or smeared (contact the laboratory for proper training and procedures). If the evidence cannot be superglue fumed, package the exhibit in a container so that the sides of the packaging will not smear the latent impressions (e.g., secure in a box with plastic ties). Packaging material such as cotton or tissue paper is not recommended.

➤ **Porous items**

It is recommended that porous evidence (e.g., paper or cardboard, etc.) be placed in envelopes, paper or plastic bags. These items should not be chemically processed prior to submission. If they have been chemically processed, include processing information at the time of submission as this may impact subsequent processing techniques employed by the laboratory.

➤ **Lifts and photographs as evidence**

Lifts and photos will be treated as evidence and as such must be detailed on a DSSP 20. Lifts may be packaged together as

one exhibit and the quantity indicated on the form. They must be packaged, properly sealed and labeled with the pertinent information. It is recommended that a brief description or sketch pertaining to each lift (or a lift log) be submitted with lifts.

➤ **Known impressions (exemplars)**

All submitted inked impressions are to be given exhibit numbers and submitted on a DSSP 20. Legible and complete inked impressions of all the ridges on the fingers and palms are of the utmost importance. Take additional sets of inked impressions if necessary. Photocopies and/or facsimiles of inked impressions should only be submitted to the laboratory for comparison purposes as a LAST resort. It is recommended that black ink or LiveScan be used for recording ten print cards.

Inked fingerprint impressions should be submitted for all suspects, victims and any individuals that may have come in contact with the evidence. Inked palm print and/or major case impressions are recommended whenever possible to ensure that comprehensive comparisons may be conducted. Complete Friction Ridge Exemplars (formally “Major Case Impressions”) are, in addition to an inked ten print card, the inked impressions of both palms, palm edges, fingertips, sides of the fingers and lower joints. Post-mortem inked finger and palm print impressions should be submitted with evidence in criminal investigations.

Suspects without inked impressions require complete name and date of birth for a criminal records check, and whenever possible a SID number should be provided. State and Federal fingerprint cards are to be submitted to the State Police Criminal Records Repository for entry into the criminal history system and AFIS. Ten print cards for determination of a questioned identity are to be submitted to the NHSP Criminal Records Repository at the Department of Safety unless the

individual is deceased. Inked impressions submitted to the laboratory are for comparison purposes only and will be returned to the submitting agency after analysis.

➤ **Adhesive tape**

These submissions can be accomplished in two manners depending on the condition of evidence. For *layered or flat* sections of tape, the non-adhesive side would be secured to a flat, rigid surface (e.g., cardboard, wood) adhesive side up and subsequently immobilized in a box. For *wadded* sections of tape, the entire exhibit should be placed into a plastic bag with one motion, immobilized to the inside of the packaging and should not be removed or readjusted.

➤ **Processing evidence for latent prints**

▪ **Dusting for prints**

When applying powder with a brush, it is important to rotate the brush with a twisting motion. This applies the powder evenly. Care should be taken NOT to brush in a back-and-forth motion as this can destroy the details of the print. Powder should not be applied to wet or greasy surfaces.

Magnetic powder can be applied to all non-magnetic surfaces. Magnetic powder is applied using a magnetic wand in a back-and-forth motion. Care should be taken NOT to allow the tip of the wand to touch the surface when powdering.

▪ **Lifting prints**

Powder-developed latent finger and palm print impressions can be collected and preserved by lifting with: a) adhesive tape onto a lift/index card, b) a hinge-type lifter, c) a rubber lifter, or d) a gelatin lifter. Once a lift has been taken, it should be properly documented from where it was obtained and marked with pertinent information. If a large impression (i.e., a palm print with fingers) is collected with more than

one lift, additional information indicating this is required upon submission.

If a latent lift attempt appears to be unsuccessful, stop the lifting process and adhere tape or a hinge lifter directly to the surface of the evidence and submit the item with the adhering lift to the laboratory for analysis.

If the investigator's prints are captured in a lift, simply cross them out with a marker and initial.

An alternative to lifting is casting. An elastic silicone-based compound, such as Mikrosil or AccuTrans, can be used to collect developed latent prints on curved or highly textured surfaces. Transparent casting material is recommended as well as white.

- **Photographing prints**

Overall and medium range photographs should be taken of developed latent prints. All close-up photographs of latent prints to be used for comparison purposes must contain a scale. Any digital camera must be set to the highest resolution setting. RAW or TIFF image files are recommended.

Missing Persons Dental Records

Missing persons dental records must be submitted to the Forensic Laboratory with a completed Unidentified Dead/Missing Person Dental Record form (DSSP126). After obtaining authorization from the next of kin, the investigator shall submit the Unidentified Dead/Missing Person Dental Record form to the dentist of the missing person. The dentist shall complete pages 4 and 5 and return the form to the investigator with copies of the patient's dental chart and any dental x-rays or dental models. The investigator shall submit the Unidentified Dead/Missing Person Dental Record form, the dental chart and any x-rays or models to the Forensic Laboratory accompanied by a completed DSSP 20.

The DSSP126 form is available for download at the following link:
www.nh.gov/safety/divisions/nhsp/documents/dssp126.pdf

Toolmark Evidence

➤ **Photography**

Photograph the toolmark in its original location at the scene using forensic photography techniques. Use side light illumination to enhance the details of the tool mark. **NEVER** try to fit the tool into the questioned toolmark.

➤ **Collection**

Portable objects bearing toolmarks may be submitted in their entirety to the laboratory. When this is not possible due to the size or location of the object bearing the mark, the section of the object bearing the toolmark may be sent. Package the evidence in containers that will prevent alterations of the marks due to rubbing. Do not put tape directly on the marked area. A barrier may be made around the marked area if the item is too large to be packaged. Package the evidence carefully to ensure that trace evidence will remain intact and the marking surfaces of tools will not be altered. The marking surfaces may be wrapped with tissue paper and secured with tape. **DO NOT** package the tools in the same container as the questioned toolmark.

➤ **Casting**

Another alternative for toolmarks is to make a cast of the toolmark impression using an elastic silicone-based compound such as Mikrosil or AccuTrans. This cast can then be collected and submitted as a separate unique item of evidence. Brown casting material is recommended as well as other dark colors.

Toxicology Evidence

➤ **DUI Specimens**

In general, ALL biological evidence submitted to the Toxicology Unit (with the exception of urine evidence submitted by the Department of Corrections) should be packaged in collection kits provided by the laboratory. Instructions are provided with each kit. Biological specimens potentially carry highly infectious diseases such as tuberculosis, hepatitis or human immunodeficiency virus (HIV). Precautions should be used when handling all biological specimens, regardless of reported medical history.

Whole blood is the preferred specimen for alcohol and drug-impaired driving cases. This should be collected in a commercially prepared blood collection tube that contains a preservative such as sodium fluoride and an anticoagulant such as potassium oxalate.

Two full blood tubes (approximately 20 milliliters of blood) should be collected from each subject. Blood tubes should be labeled with the subject's name, date and time of collection.

The evidence should be kept refrigerated until submission to the laboratory and should be submitted for testing as soon as feasible.

➤ **Beverages**

Submit the sample in a clean container that can be securely closed without leakage. This may require pouring off the contents from the original container. This container must then be placed in a plastic evidence bag which is properly sealed and labeled. Store the liquid in the refrigerator until the sample can be delivered to the laboratory.

➤ **Urine Specimen Submissions**

Urine is collected in an instant drug test cup following current Department of Corrections' protocols.

Urine samples that will not be submitted to the laboratory within 4 hours of acquisition should be frozen and maintained frozen until delivery to the laboratory is imminent.

A Specimen Custody and Control Form (DSSP 322) must accompany each urine sample and must be filled out completely and properly.

Trace Evidence

➤ **Arson/ Ignitable liquids**

Arson evidence must be packaged **as soon as possible** after the incident to avoid loss of sample. Items of evidence submitted to the laboratory for ignitable liquid analysis should be placed in a clean metal can with a press-on lid or a glass jar with a metal screw-cap. Paper and plastic are NOT suitable for packaging fire debris, since vapors can escape through these materials. Specialized Fire Debris Bags are available from various manufacturers (see Appendix) or at the laboratory and are recommended for larger items without sharp edges, such as clothing-type items.

Choose an appropriately sized container that will allow the debris to be packed loosely and fill **no more than two thirds** of the evidence container. The evidence container **MUST** be sealed tightly to hinder the escape of ignitable liquid vapors.

Store evidence in a cool, dry place while awaiting submission to the lab. Samples that contain soil or are suspected of containing light oxygenates should be refrigerated or frozen, if possible, while awaiting submission to the lab.

Whenever possible, label the side of cans and jars instead of the lid, where extraction activities and evidence tape will end up obscuring markings.

Control samples should be submitted whenever possible. Controls would include unburned materials at the scene used for comparison to burned samples submitted for analysis (e.g., wood, carpet, linoleum) or materials used to collect samples (e.g., gauze, swabs).

When submitting footwear for arson analysis, package right and left shoes in separate containers.

For liquid samples, an ounce or two is more than enough for an analysis—do not submit gasoline cans or large containers. Pour a small amount of suspect liquid into a clean, glass jar for submission to the lab. If the jar is ½ pint or smaller, please package it inside of a larger evidence bag to allow plenty of room for your markings and our labels.

➤ **Fibers/Fabrics/Carpeting/Cordage**

▪ **Photography**

If an area where fibers/fabric are found cannot be reasonably removed and submitted, it can be photographed. Photograph damaged areas of vehicles noting the position of indentations and abrasions. When photographing fabric marks, use a tripod for maximum sharpness and detail. Also, the plane of the film should be parallel to the surface bearing the mark. Include a scale in the photograph. After photographing any marks, carefully locate and remove any fibers, paint samples, etc. near the mark and dust and lift the mark.

▪ **Collection**

Collect all items of clothing worn at the time of the incident from all subjects. Do not allow suspect and victim clothing to come into contact with each other. Package each clothing item in its own paper bag. Whenever fiber or fabric analyses are required, all appropriate clothing should be brought to the laboratory for use as standards for comparison with any transferred fibers.

When collecting fiber standards from automobiles, consider collecting samples from the headliner, seats, door panels and carpeting (passenger compartment and the trunk or cargo area). Collect samples measuring approximately 1" x 1" and package them separately in coin envelopes or small

plastic evidence bags. If cuttings are not possible, pulled fibers may be used.

Handle all evidence as little as possible to prevent loss or contamination. Indicate where the evidence was collected from on the packaging and the DSSP 20. Threads or long fibers that are visible may be collected using forceps and sealed in an envelope. Whenever possible, the entire item should be collected except for items too large to package and/or transport (e.g., carpeting, furniture). For hit and run investigations, fibers or pieces of clothing may be attached to damaged areas of subject vehicles or located at the scene of the collision. These samples should be submitted to the laboratory whenever possible.

➤ **Lamps**

Collect all lamps (intact and damaged) and secure each in a separate rigid container with sufficient padding to prevent damage. If the lamp has corroded in place, remove the lamp housing assembly. If a lamp is broken in such a way that the filaments are exposed and they are still in place, secure the lamp between stacked beverage cups. If the glass bulb is still present but cracked, place adhesive tape over the cracks to prevent further damage. Document the location from which the lamp was removed and using tape, mark the orientation of the bulb in the socket (e.g., “this side was up”). Note if the lamp was submerged in water or exposed to flames. Make note if any automobile fuses were blown and the position of the vehicle light switches. **DO NOT** turn switches ON or OFF during vehicle examination.

➤ **Paint and Plastics**

If possible, entire items should be sent to the laboratory to eliminate the danger of losing trace evidence. However, in many cases, sampling is the most practical method. In order to

chip paint samples from a car, wall or other painted surface, a folded piece of paper (not tape) can be taped just below the desired location and then the paint can be scraped into the folded paper. Known samples must be collected from an area adjacent to, but not within, the damaged area in question. Paint composition can differ from location to location on one automobile or other surface; therefore, if there is damage to multiple locations it may be necessary to collect separate known samples from each. Use a clean, if possible, new blade to collect each sample. Paint and plastics coatings often consist of multiple layers. Sampling should therefore be performed by scraping down to the underlying substrate to obtain a sample displaying all existing layers.

Fold the paper used to collect each sample (scraping) into a paper packet. Place the **paper packet** in a paper envelope or evidence bag and seal. Label the envelope or bag with the location the sample was taken from, date, license plate number, color, make and model of the car and whether the chip is a **known** or **questioned** sample.

Collect any intact paint chips that may have been left from a suspect's vehicle into a rigid container such as a plastic vial to prevent any further breakage.

In areas where one surface smears paint onto another surface it is preferred that the whole item is collected and submitted. In case the smear has to be sampled, every effort should be made to obtain an undisturbed sample of the smear.

In the case of a hit and run involving a pedestrian, it will be necessary to collect the victim's clothing to look for adhering paint fragments.

Paint and/or plastics can be transferred from a tool onto the surface of another object and vice versa, and therefore the

tools should be collected and packaged carefully to prevent microscopic traces of paint from being jarred from the tool's surface.

SUBMISSION INSTRUCTIONS

Generally, evidence that will not undergo examination **will not be** accepted at the laboratory for storage or holding.

Large items such as mattresses, car seats, mature plants, etc., **will not be accepted** in their entirety by the laboratory. The laboratory must be contacted to arrange an appointment with a criminalist who will perform a cursory inspection and/or preliminary testing of the item at the laboratory or designated meeting place. The submitting individual must arrive promptly on the agreed upon date and time and ensure that they have allotted appropriate time to wait for the examination to be conducted. After the criminalist completes the examination and removes any necessary material(s) or cutting(s), the submitting individual will take possession of the examined item(s) for return to their agency.

Items suspected of containing biological threat agents should be handled and contained by a Hazardous Materials Unit prior to transport to the Public Health Laboratory (PHL) and **will not be** accepted at the Forensic Laboratory. Only after negative findings from the PHL will associated items (envelopes, letters, etc.) be accepted at the Forensic Laboratory for additional testing in criminal investigations. A copy of the PHL's report must accompany the evidence.

All submitted items **must be** properly packaged and sealed as previously described. If they are not, the submitter will be asked to remediate any deficiencies prior to laboratory acceptance.

All submissions **must be** accompanied by an Evidence Examination Request Form (DSSP 20), copies of which are available at the Department of Safety warehouse. When filling out the DSSP 20:

- **Only** list the evidence submitted to the laboratory on the DSSP 20.
- List each exhibit separately. An exhibit can be **all** items found in a single location (e.g., table top, ash tray, glove box) when they are found commingling and are packaged together. However, if items are found separately, they should be packaged separately and given unique exhibit numbers.
- With the exception of separate drug buys submitted to the Drug Chemistry Unit, include multiple items for the same case on the same DSSP 20 if possible (multiple sheets may be necessary).

THE JUDICIAL PROCESS

In addition to conducting examinations and comparisons of various types of physical evidence, criminalists are available to present expert testimony concerning their findings before the courts.

- Notify the criminalist as far in advance of the trial as possible, so that time will be available for proper court preparation.
- Due to the number of cases handled by each criminalist, conflicts in court appearance dates may occur. When sufficient advance notice is given of scheduled trials, many of these conflicts can be satisfactorily resolved.
- The individual who signed the report is the criminalist responsible for the reported results. Please submit all correspondence to the criminalist with the **laboratory number clearly referenced**.

In all cases it is requested that, in addition to the subpoena to appear in court, information be furnished as to the actual date and approximate hour when the witness will be needed to testify, or whether the witness may simply be on call.

Criminalists are prohibited from transporting evidence to court. Please arrange for evidence pickup prior to the scheduled court date.

The laboratory is able to provide live testimony via video for bench trials. Please consider whether video testimony may be appropriate for your case.

APPENDIX A: SERVICES

Biology

Blood
Semen
Saliva
Hair DNA
Wearer DNA
Touch DNA*
Date Rape Drugs*
Paternity*
Missing Persons/Relatives for CODIS*
*Sent to external laboratory for analysis

Digital Evidence

Digital Evidence Analysis

Drug Chemistry

Marijuana
Controlled Drugs
Prescription Drugs
Clandestine Lab Drugs/Precursors

Firearm & Toolmark

Firearm Function
Firearm Comparison
Bullet General Rifling Characteristics
Toolmark
Physical Match
Serial Number Restoration
Gunshot Residue/Distance Determination

Identification

Fingerprints
Footwear
Tire Track
Impressions
Indented Writing
Questioned Identity

Imaging

Video Clarification (Area of Interest)
Video Extraction (Clip)
Isolate Camera View
Time Lapse to Real Time Conversion
Multiple Camera View Narrative
File Format Conversion
Obscure Identity of CI/Undercover

Trace

Ignitable Liquids (Standard)
Ignitable Liquids (Light Oxygenates)
Paint/Plastic
Fiber
Lamp
Hair
Dental Records

Toxicology

Alcohol
Drugs

Breath Alcohol Calibration

Intoxilyzer/PBT Calibration

APPENDIX B: VENDORS

The following vendors can be contacted for catalogs, availability of items and quotes for evidence and crime scene processing supplies:

Supplier	Website	Telephone
Ace Fingerprint Inc.	www.acefel.com	800-426-7072
Arrowhead Forensics	www.crime-scene.com	800-953-3274
AMPAC Fire Debris Bags	www.ampaconline.com	800-543-7030
Central Equipment, Inc.	www.central-equipment.net	800-472-7747
CMI, Inc.	www.alcoholtest.com	866-835-0690
CSI Forensic Supply	www.csiforensic.com	800-227-6020
Evident	www.evidentcrimescene.com	800-576-7606
Lynn Peavey	www.lynnpeavey.com	800-255-6499
National Law Enforcement Supply	www.nlescorp.com	866-972-6464
Sirchie, Inc.	www.sirchie.com	800-356-7311

APPENDIX C: CONTACTS

CONTACT	PHONE	AFTER HOURS
NH State Police		
Communications	(603) 223-4381	(800) 525-5555
Criminal Records	(603) 223-8405	
Explosive Ordinance Disposal Unit	(603) 223-8590	(800) 852-3411
Major Crime Unit	(603) 223-3856	(800) 525-5555
State of New Hampshire		
Chief Medical Examiner	(603) 271-1235	
Fire Marshall	(603) 223-4289	(603) 223-4381
Hazmat Hotline (24 hrs)	(800) 346-4009	
Health & Human Services	(603) 271-4688	(800) 852-3345
Public Health Laboratory	(603) 271-4496	
Food Protection	(603) 271-7589	
Federal		
Alcohol, Tobacco, Firearms & Explosives	(603) 471-1283	
Drug Enforcement Administration-Bedford	(603) 628-7411	
FBI-for Fingerprint Cards	(304) 625-2222	
FBI-Bedford, NH	(603) 472-2224	
FBI-Boston, MA	(617) 742-5533	
Homeland Security & Emergency Management	(603) 271-2231	(800) 852-3792
Immigration & Customs Enforcement-Manchester	(603) 625-5276	
Internet Crimes Against Children Task Force	(603) 610-7429	
Other		
University of North Texas (UNT) Forensic Anthropology Services	(800) 279-1339	
UNT Missing Persons/Unidentified Human Remains DNA Analysis	(800) 763-3147	