

# Physical Evidence Handbook



<http://www.txdps.state.tx.us/forms/index.htm>

09/01/2007



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## INTRODUCTION

The Physical Evidence Handbook is provided to acquaint law enforcement personnel with the forensic laboratory services offered by the Texas Department of Public Safety Crime Laboratory Service. It is intended as a guide to assist officers in the proper, safe, and efficient methods of evidence collection, packaging, and submission. Law enforcement personnel must take care to ensure the evidence will not be lost, damaged, or contaminated and that the chain of custody will be as short as possible. It is our goal to work with law enforcement to protect the integrity of their evidence and the criminal case being investigated.

The Department of Public Safety (DPS) strives to provide high quality forensic laboratory services on evidence associated with a criminal investigation for all law enforcement agencies in Texas. The DPS Crime Laboratories are located in thirteen locations around the state, making them convenient to all parts of Texas. All forensic services, including expert witness testimonies, are rendered free of cost.

All laboratories located throughout the state have the capability to analyze **Controlled Substance** evidence, and all (with the exception of Amarillo, El Paso, and Laredo) can determine the amount of alcohol in biological samples.

The laboratories in Austin, Corpus Christi, El Paso, Garland, Houston, Lubbock, McAllen, and Waco can examine biological evidence for **DNA** typing.

The Austin, Garland, Houston, Lubbock, and McAllen laboratories can examine various types of **Trace** evidence.

**Firearms** and **Toolmarks** examinations, including distance determinations and serial number restorations are conducted in the Austin, El Paso, Lubbock, McAllen, and Tyler laboratories. These laboratories also contain a **NIBIN** (National Integrated Ballistic Imaging Network) unit for the entry of cartridge cases from seized firearms and spent cartridge cases from crime scenes in a national database to identify possible associations of gun-related crimes.

In addition, the Austin laboratory also provides services in the areas of **Toxicology**, **Photography**, **Latent Prints**, **AFIS** (Automated Fingerprint Identification System), **Questioned Documents**, and **Digital / Multimedia Evidence**.

Typical daily hours of operation for staff members are between 8 a.m. and 5 p.m. Local laboratories should be contacted for hours during which they will receive evidence. For any special assistance needed during off hours, contact DPS Communications.

The Crime Laboratory Service observes the state of Texas holiday schedule. On occasion, offices may be closed due to inclement weather conditions.

It is the desire of our crime laboratory staff to work closely with the law enforcement community to provide the most information that can be gained from evidence. Our staff will also provide assistance when necessary in the collection/preservation of evidence from the scenes of major crimes and clandestine drug labs. Consultation for testimony is highly encouraged.



## **INTRODUCTION**

The Crime Laboratory Service values and encourages communication and cooperation with its customers.

As a result of compliance with accreditation standards, there are certain requirements of communication and policies regarding case acceptance that must be upheld by the DPS Crime Laboratories. This section outlines the specific parameters and limitations regarding the submission of evidence to a Texas Department of Public Safety Crime Laboratory (hereafter referred to as DPS Crime Laboratory).

In the remainder of this document, the submitting officer and/or submitting agency may also be referred to as "customer".

## **LABORATORY CONTRACT SERVICES AND POLICIES**

The DPS Crime Laboratory submission form (LAB-06) should accompany the evidence as it is submitted. Information added to this form should include a description of the items of evidence being submitted and the general type of service(s), or discipline(s) believed to be necessary in the analysis of the evidence.

**A completed DPS Crime Laboratory submission form (LAB-06) serves as a proposed contract between the customer and the DPS Crime Laboratory.**

Laboratory personnel will evaluate the evidence, the requested services, and the case history to ensure that the needs of the customer can be met by the DPS Crime Laboratory where the evidence was originally submitted. A case synopsis or report can assist in evaluating the requested services.

The customer will be informed if the laboratory is unable to meet their needs or if other services offered by the laboratory would benefit the agency's investigation.

**The laboratory may contact the customer to clarify any discrepancies with the submission form, description or condition of the item(s) of evidence, and whether to proceed with testing.**

A forensic scientist may contact the customer when circumstances of the submission need to be clarified before work can commence.

If the laboratory believes that the evidence is unsuitable, insufficient quantity/quality or of limited value, the forensic scientist has the discretion to not perform a test. Information will be provided on the laboratory report to inform the customer that an item of evidence was not analyzed or examined.

**The customer permits the forensic scientist to choose the appropriate testing methods to fulfill the requested services and deemed to be of the most relative value to the submitted evidence.**

When the laboratory has the capability to complete the requested services, appropriate methods of analyses and examinations, that have been validated and are recognized by the forensic community, will be used.



## **Statement of Services**

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The customer will not necessarily be informed prior to testing of the specific methods used to conduct the analyses or examinations on the submitted evidence. However, the methods used are available for review by the customer, upon request.

During the course of analysis of evidentiary items where large numbers of a particular item are submitted as one exhibit (e.g. corner baggies, pills, and excess quantity drugs), it may be necessary for the forensic scientist to use a sampling plan to analyze a portion of items from that exhibit. A statistically valid method of selection and analysis will be used on the samples, such that the reported results are intended to be representative of the whole exhibit. The customer will not necessarily be informed that a plan was utilized; however the documentation of the sampling plan used is available for review by the customer, upon request.

Occasionally, it may be necessary for the forensic scientist to subdivide an exhibit for analysis or to collect a sample from the exhibits in order to properly preserve or analyze the evidence (e.g. cuttings, tapings, extractions, and segregation of samples). These subdivided exhibits may be retained by the DPS Crime Laboratories for possible future examination or retrieval. All DPS Crime Laboratories will maintain an internal chain of custody of the movement of exhibits through the DPS Crime Laboratory Service.

The DPS Crime Laboratory may contact the customer to discuss the decision to not perform a requested service. After receiving the laboratory report, the customer, in turn, may contact the laboratory to discuss the test(s) not performed or to request other services.

**The evidence may be forwarded to another DPS Crime Laboratory to complete the requested services.**

If the DPS Crime Laboratory where the evidence was submitted is not capable of performing the service or for purposes of efficiency/effectiveness, the evidence and request may be transferred at the discretion of the laboratory to another DPS Crime Laboratory capable of fulfilling the request. A DPS Crime Laboratory may advise the customer, as appropriate, when their evidence has been forwarded to another DPS laboratory. The laboratory report from the original laboratory will reflect this information.

If the laboratory receives a request to complete analysis of evidence in a certain time-frame but the laboratory cannot meet the requested time requirements, the customer will be notified. Delays in routine casework will usually not result in communication with the customer. Should a significant delay occur, laboratory management may contact the affected agencies.

**For special service requests or time constraints, it is the responsibility of the customer to effectively communicate those needs to the laboratory. The customer should understand that non-routine service requests and rush situations are discouraged as it will inevitably impact completion of other cases.**

At a time convenient to all parties, customers may meet with the scientist(s) to discuss potential testing, view the evidence or discuss the results and conclusions of testing.

DPS Crime Laboratories examine evidence from a wide range of agencies. In order to preserve the confidentiality of all cases and maintain a secure working environment, customers are not routinely permitted to be present during the examination of evidence. Any requests to do so will be referred to the Director of the Crime Laboratory Service.



**Statement of Services**

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**If there are questions regarding laboratory services and policies, please call the local laboratory and laboratory staff will answer any questions. Phone numbers and addresses are listed in PEH-01-03 Scope of Testing.**

Suggestions or comments for improvements to the Texas Department of Public Safety Crime Laboratories are encouraged and can be submitted to the Crime Lab Service by completion of the Customer Survey form (LAB-QA-23) located in this handbook or the general survey on the DPS website, [www.txdps.state.tx.us](http://www.txdps.state.tx.us).



TEXAS DEPARTMENT OF PUBLIC SAFETY  
CRIME LABORATORY

**Customer Survey**

LAB-QA-23 Rev.00 (04/2007)

The Texas DPS strives to achieve service excellence through open communication and cooperation with our customers. Please assist us in achieving this goal by completing this service evaluation.

Thank you for your assistance.

Laboratory \_\_\_\_\_  
 Name \_\_\_\_\_  
 Agency \_\_\_\_\_  
 Phone \_\_\_\_\_

	Rating				
	Excellent	Average			Poor
1. Have you found the laboratory personnel courteous?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. Have you been satisfied with the overall service provided by the laboratory (all aspects from evidence collection to report receipt)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. Has the handling of your evidence by DPS met your expectation?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. Has DPS met your expectation with regard to confidentiality?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

We welcome your positive and negative comments on our operations and ways we might improve our service. Please supply the names of personnel and case numbers as appropriate:

\_\_\_\_\_

Mail to:  
**Quality Assurance, Crime Lab Service**  
**Texas DPS**  
**PO Box 4143 MSC 0460**  
**Austin, TX 78765**

Or Fax to:  
**512-424-5645**

DPS	Date Received by CLS _____ Date Forwarded to Lab _____
	Supervisor _____ Date _____ Signature _____





## **LABORATORY SERVICES**

A listing of laboratory services and the laboratories that provide those services is included on Table 1 of this section of the Physical Evidence Handbook. The DPS Crime Laboratory does not perform external calibration services.

The specific evidence collection sections of this handbook outline more specific details and limitations of the testing offered by the Texas DPS.

### **PEH-01-03:Table 1 Laboratory Services**

## **LABORATORY ADDRESSES AND PHONE NUMBERS**

The mailing and physical addresses and phone numbers for the Texas DPS Crime Laboratories are located on Table 2 of this section.

### **PEH-01-03:Table 2 Laboratory Addresses and Phone Numbers**

## **DISCIPLINE MAPS**

Included in this section are maps which provide a geographical representation by county of which laboratories are available for testing in the areas of drugs, blood alcohol, DNA, Trace and Firearms and Toolmarks.

### **PEH-01-03:Figure 1 Laboratories Examining Drug Evidence**

### **PEH-01-03:Figure 2 Laboratories Examining Blood Alcohol Evidence**

### **PEH-01-03:Figure 3 Laboratories Examining DNA Evidence**

### **PEH-01-03:Figure 4 Laboratories Examining Trace Evidence**

### **PEH-01-03:Figure 5 Laboratories Examining Firearms and Toolmarks**

## LABORATORY SERVICES

	Drugs	Blood Alcohol	Biological Evidence	Firearms Evidence Screening/DNA	Firearms and Toolmarks/NIBIN	Gunshot Distance Determination	Serial Number Restoration	Shoe/Tire Impressions	Lamp Filament	Hair	Fibers	Paint	Unknown Substances	Glass	Gunshot Residue	Toxicology	Questioned Documents	Digital Evidence <sup>1</sup>	Latent Prints	AFIS	Clan Lab Assistance <sup>2</sup>	Crime Scene Assistance <sup>3</sup>	Photography
Abilene	X	X																			X		
Amarillo	X																				X		
Austin	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Corpus Christi	X	X	X																		X	X	
El Paso	X		X	X	X	X															X		
Garland	X	X	X				X	X	X	X	X	X									X	X	
Houston	X	X	X				X	X	X	X	X	X									X	X	
Laredo	X																				X		
Lubbock	X	X	X	X	X	X	X	X	X	X	X	X									X	X	
McAllen	X	X	X	X	X	X	X	X	X	X	X	X									X	X	
Midland	X	X																			X		
Tyler	X	X		X	X	X															X		
Waco	X	X	X																		X	X	

<sup>1</sup> Digital Evidence includes computer, imaging, video, and audio forensic examinations

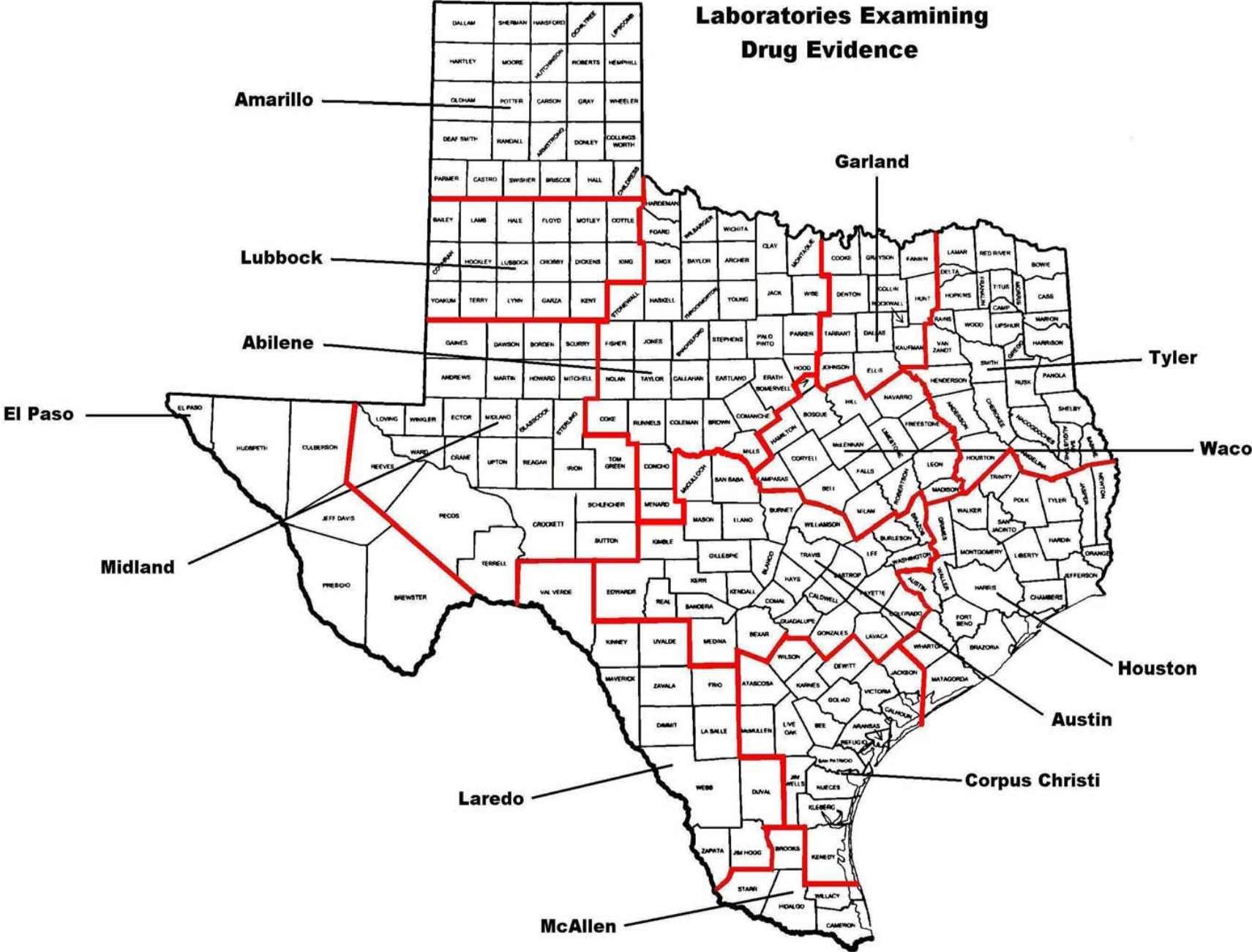
<sup>2</sup> Clandestine laboratory shut-down and evidence collection

<sup>3</sup> Assistance at complex scenes

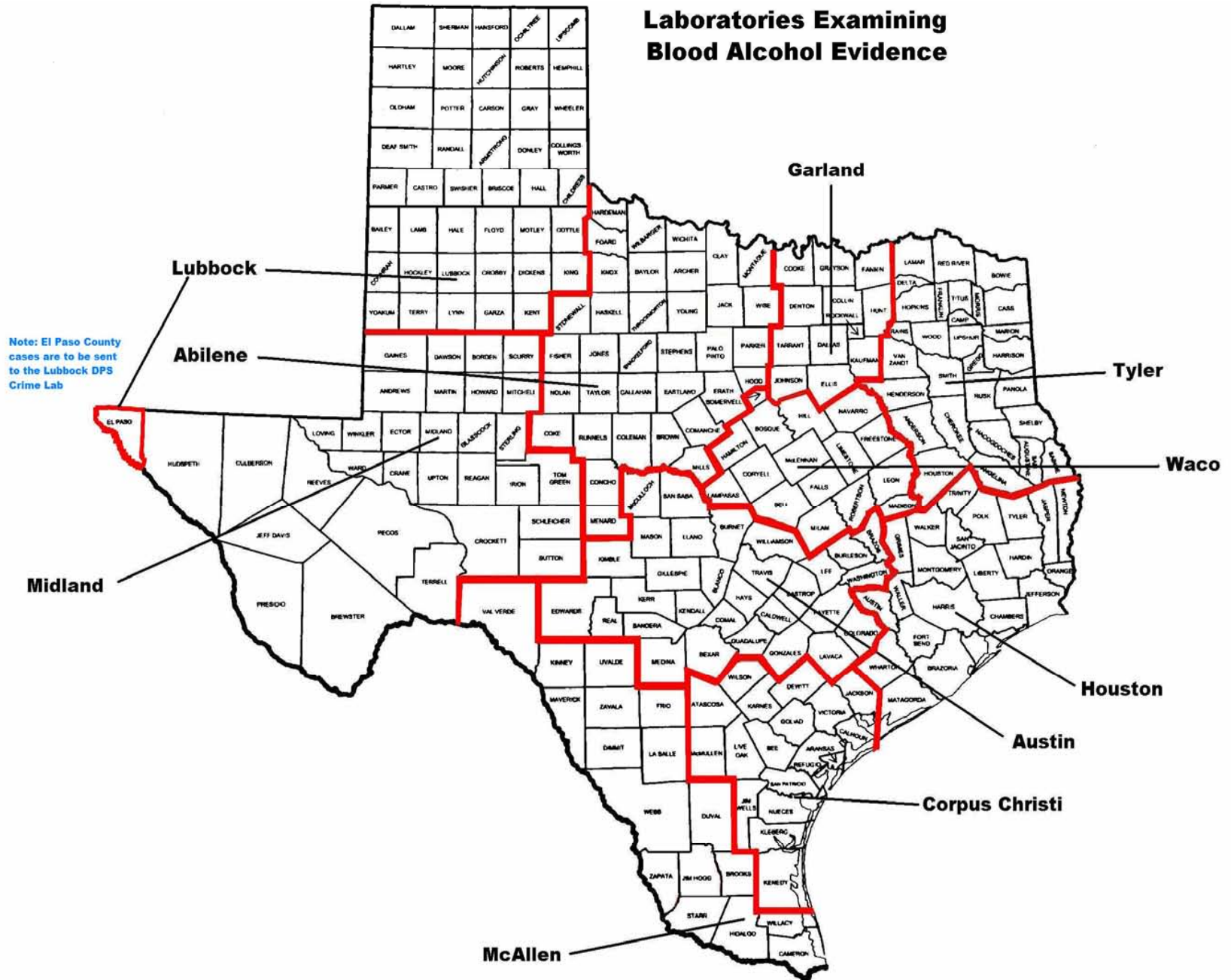
**LABORATORY ADDRESSES AND PHONE NUMBERS**

Laboratory	Mailing Address	Physical Address	Phone Numbers
Abilene	PO Box 6876 Abilene, TX 79608	2720 Industrial Blvd Abilene, TX 79605	325-795-4040 Fax 325-795-4134
Amarillo	4200 Canyon Drive Amarillo, TX 79109	4200 Canyon Drive Amarillo, TX 79109	806-468-1430 Fax 806-468-1442
Austin	PO Box 4143 MSC 0460 Austin, TX 78765-4143	5805 N. Lamar Blvd Austin, TX 78752	512-424-2105 Fax 512-424-2869
Corpus Christi	1922 S Padre Island Dr Corpus Christi, TX 78416	1922 S Padre Island Dr Corpus Christi, TX 78416	361-698-5641 Fax 361-698-5574
El Paso	11612 Scott Simpson El Paso, TX 79936	11612 Scott Simpson El Paso, TX 79936	915-849-4120 Fax 915-849-4113
Garland	350 West IH 30 Garland TX 75043	350 West IH 30 Garland TX 75043	214-861-2190 Fax 214-861-2194
Houston	12230 West Road Houston TX 77065-4523	12230 West Road Houston TX 77065-4523	281-517-1380 Fax 281-517-1395
Laredo	1901 Bob Bullock Loop Laredo, TX 78043-9771	1901 Bob Bullock Loop Laredo, TX 78043-9771	956-728-2245 Fax 956-728-2246
Lubbock	1302 Mac Davis Lane Lubbock, TX 79401	1302 Mac Davis Lane Lubbock, TX 79401	806-472-2832 Fax 806-472-2841
McAllen	PO Box 819 McAllen, TX 78505-0819	1414 N Bicentennial McAllen TX 78501	956-984-5624 Fax 956-984-5713
Midland	PO Box 4367 Midland, TX 79704	2405 South Loop 250W Midland, TX 79703	432-498-2190 Fax 432-498-2358
Tyler	PO Box 132259 Tyler TX 75713	4700 University, Suite 2 Tyler, TX 75707	903-939-6021 Fax 903-939-6097
Waco	1617 East Crest Dr Waco, TX 76705	1617 East Crest Dr Waco, TX 76705	254-759-7180 Fax 254-759-7185

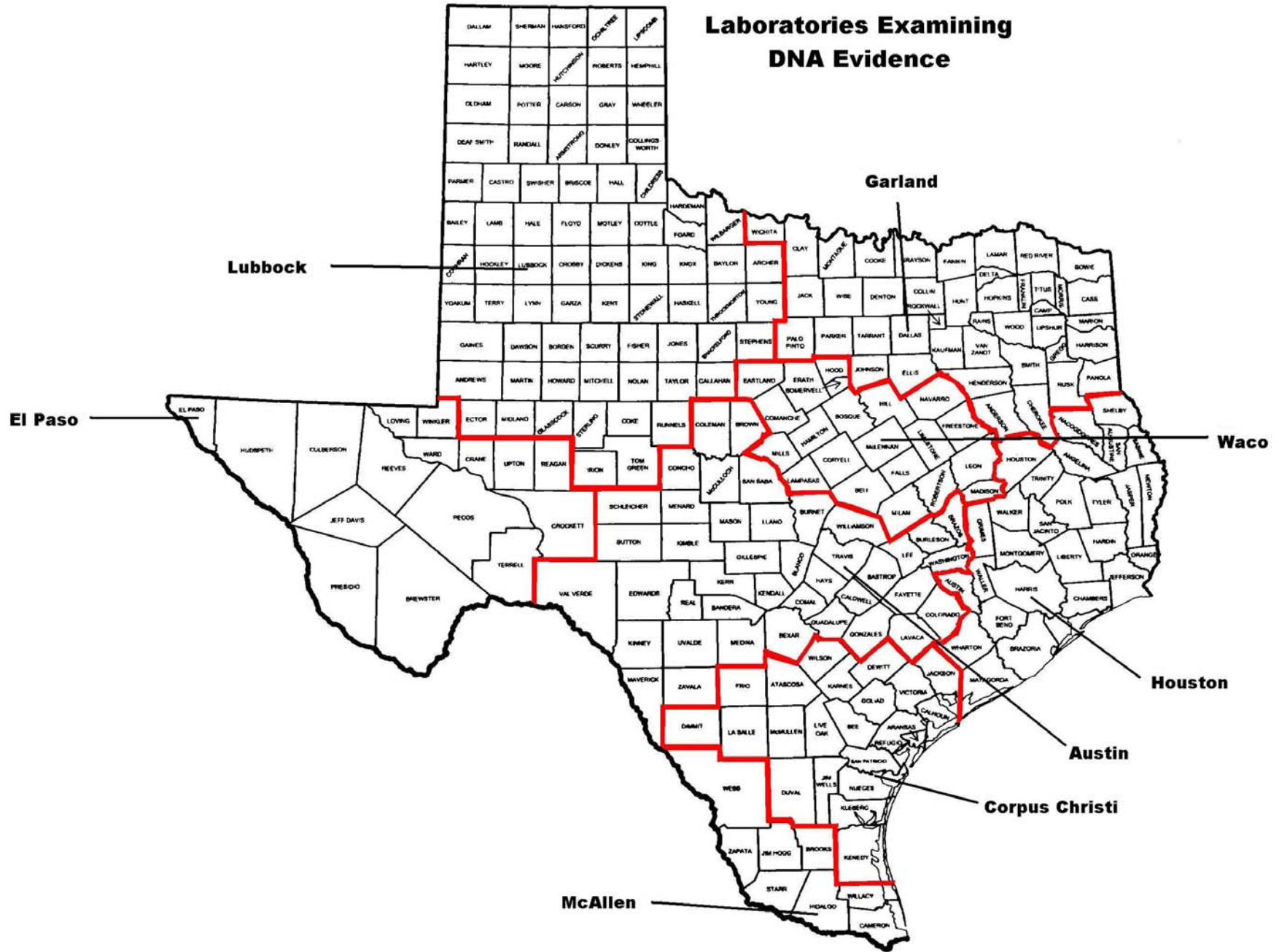
# Laboratories Examining Drug Evidence



# Laboratories Examining Blood Alcohol Evidence



## Laboratories Examining DNA Evidence

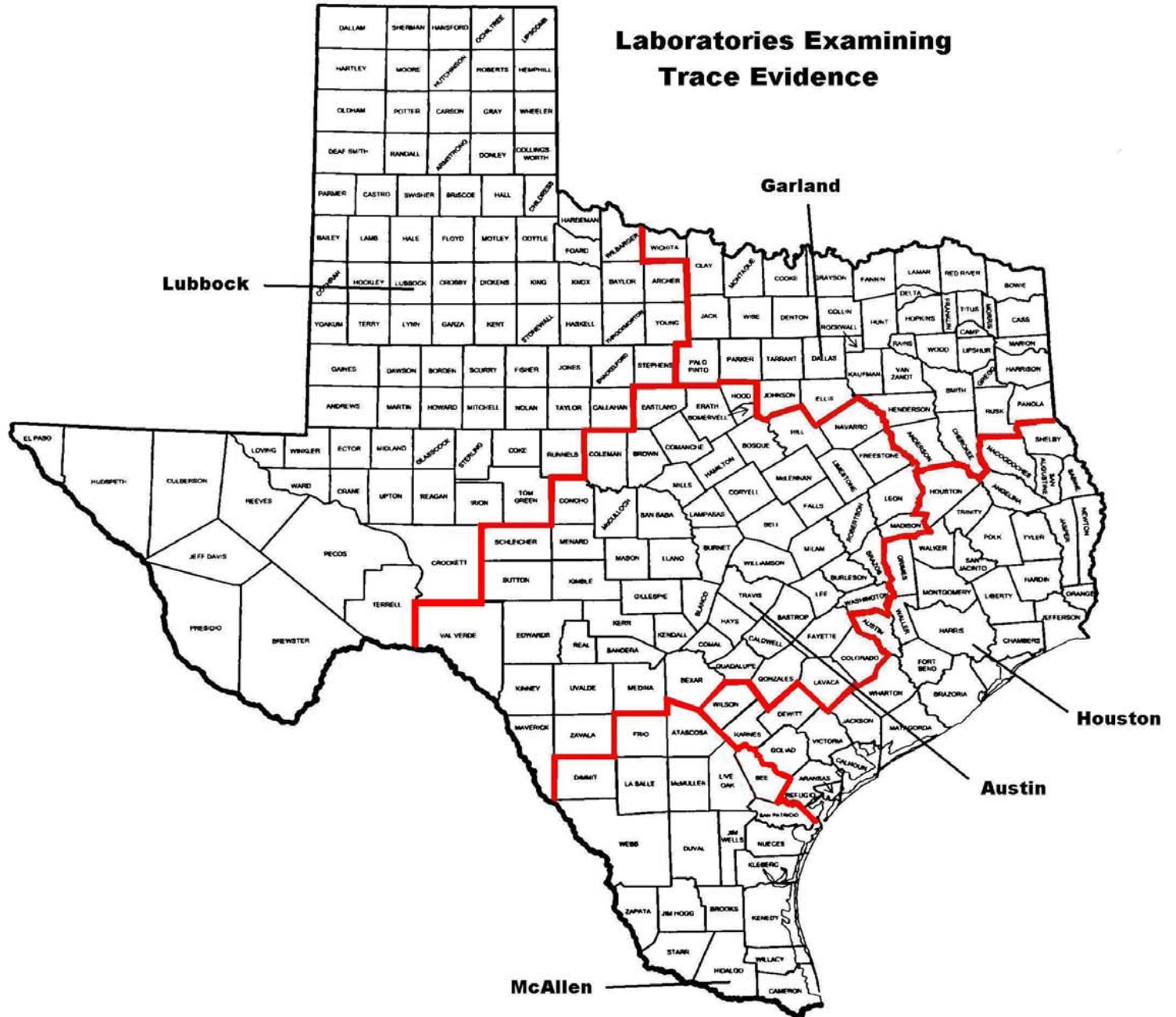


[05/04/2007]

The most current copy of The Physical Evidence Handbook is available at:  
<http://www.txdps.state.tx.us/forms/index.htm>

PEH-01-03:Figure 3

## Laboratories Examining Trace Evidence



# Laboratories Examining Firearms and Toolmarks







## INTRODUCTION

A DPS Crime Laboratory Submission form (LAB-06) should be included with all evidence submissions. These forms are designed to ensure that the laboratory has all the necessary information about the case and to minimize the officer's time and effort.

Submission forms are available at any of the 13 Texas DPS Crime Laboratories or can be downloaded from the Texas DPS website:

<http://www.txdps.state.tx.us/forms/index.htm>

A Toxicology Evidence Submission Form should be used for the submission of whole blood or urine specimens for the determination of alcohol and/or drug content. This form will be included in the blood specimen and urine specimen collection kits available from the General Stores.

Submission forms must be filled out as completely as possible and they **MUST BE LEGIBLE**. Please note that incorrect or incomplete submission forms may delay the processing of evidence.

## EVIDENCE COLLECTION KITS

Call 512-424-5424 for ordering and price information. Use only these approved test kits, as they are prepared according to strict specifications under DPS authority and knowledge of component preservatives and anti-coagulants. The syringe transport tube is required for submission of syringes to the laboratories.

These may be purchased from DPS General Stores. The address is:

**DPS General Services Bureau**

**108 Denson Drive**

**Austin, Texas 78752**

Item	Stock Number
Blood Alcohol Specimen Kit	680-93-8050
Urine Specimen Kit	680-93-8060
Syringe Transport Tube	475-34-7920



## TECHNIQUES OF EVIDENCE HANDLING

The true value of evidence can be realized only if proper care has been used in observing the simple rules – scientific and legal – that should govern the journey of physical evidence from its discovery to its final appearance as a court exhibit. The steps in this procedure may be described as follows:

1. Security of the scene and the evidence
2. Discovery of the evidence
3. Documentation of the evidence (via photography or sketches)\*
4. Collection of the object(s) or sample(s)\*
5. Packaging of the evidence (to include properly sealing the packaging)\*
6. Submission to the laboratory\*
7. Laboratory examination
8. Custody of the evidence pending trial
9. Transportation to court
10. Exhibition in court

\* This manual has been developed to assist law enforcement agencies in the state of Texas in fulfilling the necessary requirements of these steps.

Contact the laboratory if you require assistance.

## GENERAL PRINCIPLES

The following principles are given for general guidance. The laboratory staff can answer questions regarding handling of evidence.

### INTEGRITY OF THE CRIME SCENE

Prior to entering any crime scene, ensure that its original condition has been documented, preferably by photo.

Gloves and disposable booties should be worn when investigating a crime scene to avoid contamination of the evidence. Change gloves and booties often to avoid cross contamination.

### SUFFICIENCY OF SAMPLE

It cannot be too strongly emphasized that very often insufficient amounts of evidence are submitted for analysis. This is especially true in cases involving trace evidence (hair, paint, soil, etc.). When collecting evidentiary samples, if there is any question as to sufficiency, it is far better to submit generous samples. The laboratory staff can answer questions



## **General Evidence Handling**

regarding amounts needed for analysis. Another helpful guide for sufficiency of sample is the appendix at the end of this handbook.

### **MAINTENANCE OF INDIVIDUALITY**

Each bit of evidence must be collected and preserved as a separate sample to avoid contamination. For example, the glass found at the scene of a hit-and-run must not be placed in the same container as the known glass sample from the suspect's automobile.

### **LABELING**

To preserve the identity and chain-of-custody of each item of evidence, each sample or exhibit must be labeled. However labeled, the labeling system for items of evidence should correspond to labeling and item descriptions of a crime scene log. Labeling should not occur on the item itself; rather it should be on a tag attached to the item in an area not to be tested or on its individual container (which may have something of an evidence tag affixed to it).

It is recommended that at a minimum, items be labeled with an item number, location of collection, date collected (to include time; as required by some agencies), and initials of individual who collected the item. Other pertinent information may also be included, depending on your agency's policies. It is highly recommended that an item numbering system be used when referring to item numbers on the submission form for evidence that will be submitted to the crime lab. Do not confuse your agency by having to keep track of two or more lists of evidence.

Small items should be placed in appropriate containers. **ALL EVIDENCE MUST BE LABELED AND PROPERLY SEALED.** For a seal to be considered proper, the tape must have the initials of the person performing the seal and the date on which the seal was created with some part of the labeling extending over the edge of the seal. Tape should completely cover all openings to the evidence container. Please do not use staples as it does not constitute a proper seal and may present a safety hazard. All of these steps are taken in an effort to ensure that if a seal has been tampered with, it will be evident.

**Any items suspected of containing blood or other body fluids must be labeled as a "Biohazard".**

### **COLLECTING AND PACKAGING**

When packaging evidence, the essential goal is to preserve the original integrity of the samples. For this reason, samples should be properly segregated so that contamination does not occur and all instruments, bottles, test tubes, envelopes and other containers used to package evidentiary items must be clean and not previously used.

It is necessary that evidence samples and standards be packaged separately. The collection of these items must be separated by space and if possible by time as well.

All packaging must be labeled and a chain of custody maintained (in the manner deemed appropriate by your agency) so that all items can be readily identified by all who have been a part of the chain of custody.

Place the exhibits of one case in external containers that have been labeled with that case information only. Do not place the evidence from more than one case in the same external



**General Evidence Handling**

container; unless that container is used only for the convenience of transport, does not have any case information on it, and is unsealed.

When mailing, package only one case in a container and attach submission form to the outside of the container in a pouch or envelope. The Texas DPS Crime Laboratory System considers all mailing containers to be a part of the evidence packaging; which may find their way into court and for which testimony might have to be given.

**NOTE: The following pages contain photos of properly sealed envelopes and boxes.**



Examples of properly sealed envelopes (note that manufactured seal at the bottom has not been reinforced with tape)



Proper seal on the top of a box



Proper seal on the bottom of a box

Examples of a properly sealed box (note that the bottom of the box has also received a seal – necessary to demonstrate the seal has not been broken since evidence was placed into the box)



## INTRODUCTION

Controlled Substance evidence is composed of several different types of physical evidence – plant substance, powders, liquids, pills, and tablets. The goal of a DPS Crime Laboratory is to determine the presence or absence of a Controlled Substance in the physical evidence submitted to the laboratory. The laboratory also determines the net weight, which is the weight of the substance without any packaging. Many liquid and solid samples being submitted are associated with the clandestine manufacture of methamphetamine. This section will offer guidelines for the collection and packaging procedures of Controlled Substances, as well as basic safety considerations. **Contact your local laboratory for specific instructions on collection, packaging, and submission procedures.**

## SAFETY CONSIDERATIONS

The greatest safety hazard is associated with biological fluids and biological materials with syringes, razors, and broken glass. These items pose a threat to law enforcement and laboratory personnel for the transmission of HIV and Hepatitis. Universal Bloodborne Pathogen Precautions should be observed. Personal protective equipment such as eye protection, lab coat or coveralls, and nitrile gloves is recommended. **When collecting evidence, we advise that this apparel is ready for use. It is extremely important to follow your own department's safety procedures for collecting and handling evidence.**

## PACKAGING

1. Submit drug evidence in an appropriately sized container.
2. The actual physical evidence may require additional packaging before placing it in the outer container. Inner packaging may include zippered bags, heat-sealed bags, plastic sample bottles, or other containers appropriate for the evidence being submitted. Example: Place suspected small crack rocks in a zippered bag and seal in an envelope for submission.
3. Place exhibit number, initials, date, and seal on inner packaging. Always follow your department's procedures for marking and packaging evidence.
4. After the physical evidence is carefully placed in an outer container, it is ready for sealing. The DPS Crime Laboratories require a proper seal to be placed on the outer container of ALL evidence in the care, custody, and control of the laboratories. An appropriate guideline to follow is to place a seal on all points of entry of the container, such as both ends of an envelope or the top and bottom of a box; further entrance into the container must be evident.
  - Use tamper-evident tape, such as evidence tape or clear 2" packing tape.
  - A proper seal means your seals must contain tape, date, and **initials on all seals made. Seals do not necessarily have to be created over intact manufactured seals.**



## **Drug Evidence Collection**

### **MARIHUANA AND OTHER PLANT SUBSTANCES**

#### **COLLECTION**

Fresh green plant substance (marihuana, mushrooms, cactus, etc.) shall be dried thoroughly before being submitted.

1. Do not include the roots and dirt with the plant substance.
2. Leaves and stems shall be stripped from large stalks for submission. Large stalks, dirt, or roots are not included in the weight.

Large drug seizures may have been soaked in gasoline. Contact your laboratory before bringing the evidence to the laboratory facility to discuss the venting of gasoline or other noxious fumes.

#### **SPECIAL PACKAGING REQUIREMENTS**

1. Package freshly dried plant substance in paper bags or boxes to allow for continued drying before submission.
2. Large drug seizure evidence should be sub-divided in containers weighing no more than thirty (30) pounds. Individual bundles weighing more than thirty pounds do not have to be subdivided.
3. Contact your laboratory regarding their preferences on types of containers for the submission of evidence.

Some laboratories do not accept trash bags. Instead, they require evidence sealed in boxes. Large bundles can be submitted as their own container.

### **BIOHAZARD EVIDENCE**

#### **COLLECTION**

Syringes will not normally be examined by the DPS Crime Laboratories. Only the prosecuting attorney may request the examination of syringes or the presumed content of a syringe.

1. Leave any liquid contents in the syringe. Do not attempt to transfer the contents of the syringe to another container. (See number 1 in Packaging)
2. Liquids from a syringe will be treated the same as a syringe. It will not be examined unless requested by the prosecuting attorney.
3. If you believe you have retrieved the contents of a syringe already in another container, consider it to be a biohazard and treat it with the same precautions.

Drug evidence or a container with drug evidence is often confiscated from a body cavity or spit from the mouth. This drug evidence is considered a biohazard and will be treated as such.



### SPECIAL PACKAGING REQUIREMENTS

1. DPS Crime Laboratories require the submission of syringes in an approved safety container.



Syringe safety container

2. Mark all layers of packaging, containers and Submission Form with universal biohazard labels.
3. Explain in large print on the Submission Form that the evidence contains a syringe(s) or the contents of a syringe, in addition to using the universal biohazard label.
4. When submitting evidence retrieved from a body cavity, explain in large print on the Submission Form, in addition to using the universal biohazard label.

### CLANDESTINE LABORATORY CHEMICALS

#### SAFETY CONSIDERATIONS

The greatest safety hazard associated with clandestine laboratories is chemical exposure. The chemicals can cause severe chemical burns and/or may be toxic.

Officers not trained in clandestine laboratory safety should contact their local DPS Crime Laboratory for advice on handling chemicals. The use of personal protective equipment such as eye protection, protective clothing, SCBA or air purifying respirators, and nitrile gloves is recommended. **When collecting evidence, we advise that you have this apparel ready for use. It is extremely important to follow your own department's safety procedures for collecting and handling evidence.**





## COLLECTION

Please contact your local DPS Crime Laboratory for advice on collecting, sampling, and packaging evidence from a clandestine laboratory, as well as any restrictions they may have regarding submission.

Insuring the exhibits do not spill or contaminate other exhibits is very important.

Double packaging will go a long way toward insuring this.

1. Package all liquids in a sturdy plastic bottle with secure plastic lids or a glass jar with a plastic lid. Lids may be sealed with chemical tape or duct tape. Do not use metal lids on jars or bottles.
2. Label bottles clearly. Exhibit numbers are the minimum that should be on each piece of evidence. Placing a piece of 2-inch packing tape on the bottle, writing the information on the bottle, and placing a second piece of tape over the writing is frequently effective in preventing organic solvent fumes from dissolving the writing. Evidence bags with white "write on" strips seem to resist ink loss well.
3. Place individual exhibits in separate sealed plastic zipper bags. Again, placing a piece of 2-inch packing tape over the mouth of the plastic zipper bag, writing the information on the tape seal, and placing a second piece of tape over the writing is frequently effective in preventing organic solvent fumes from dissolving the writing. Prop bottles upright to reduce the chance of spillage.
4. Place solids in sturdy plastic bottles and handle as described in #1, 2, and 3. Solids can also be submitted in a plastic zipper bag, sealed as described in #3. Placing the plastic zipper bag inside another, which is also sealed as described in #3, will protect the solid from contamination resulting from any spills or vapors.
5. It is not necessary to submit large samples of iodine, lithium, or red phosphorous. Approximately 1 gram (the weight of a package of artificial sweetener) in a sturdy plastic bottle will suffice.
6. It is not necessary to submit large samples of organic solvents not believed to contain controlled substances.
7. Do not submit items still in factory sealed containers when discovered.
8. DO NOT submit any ammonia tanks.

## SPECIAL PACKAGING REQUIREMENTS

1. DPS Crime Laboratories require the submission of clandestine laboratory samples in heavy-duty plastic bottles. Please contact your local Laboratory for information on ordering appropriate containers.
2. Some DPS Crime Laboratories have specific requirements on the outermost container for clandestine laboratory samples. Please contact your local Laboratory for their needs.
3. All outer containers in which liquid samples have been placed should be labeled clearly to indicate which end is the top.



**INTRODUCTION**

The Department of Public Safety analyzes blood for alcohol concentration in most of the field laboratories. All samples for alcohol content only, or for alcohol and drug content should be sent to your local DPS Crime Laboratory. Those for only drug content should be sent directly to the Austin Regional Laboratory. Analysis for drug content utilizing blood, vitreous, and/or urine specimens is performed only in the Toxicology Section of Austin DPS Crime Laboratory. DPS Crime Laboratories routinely test blood and urine specimens for alcohol and drug content in traffic investigations. When requested, a crime laboratory will perform analysis for other types of investigations. **Contact your DPS Crime Laboratory for specific instructions for the type of specimen preferred and to which crime laboratory it should be sent.**

On a Submission Form, you are requested to list specific drug(s) suspected of being used by the suspect. DPS does not test biological samples for the following drugs, nevertheless, notes about their suspected presence may be useful during analysis

Antibiotics	Lithium
Heart medications	LSD
Diabetic medications	Methylphenidate
Vitamins	Mescaline (peyote)
Diuretics	Paroxetine
Bupropion	Placidyl
Buspirone	Psilocybin (mushrooms)
Diethylpropion	Risperidone
Fluoxetine	Sertraline
GHB	THC in blood (Marihuana)
Haloperidol	Verapamil

For information concerning these and other drugs/medications, refer to common reference materials (e.g. Physicians Desk Reference [PDR]).

**SAFETY CONSIDERATIONS**

Toxicological evidence is associated with biological fluids, and therefore considered biohazard. Universal Bloodborne Pathogen Precautions should be observed. Treat all biological samples as if they are infected with a bloodborne pathogen. Personal protective equipment such as eye protection, and latex, nitrile, or other non-porous polymer gloves is recommended.



Observe biohazard warning labels and affix biohazard warning labels to the packaging containing toxicological evidence.



Should a blood sample be shipped by air (which would include overnight shipments), it must be packaged according to IATA (International Air Transportation Association) regulations.

**BLOOD KIT PROCEDURES**

**Collection**

Only qualified medical personnel should collect blood samples from a person.

Provide a full tube of blood, if possible.

Evidence collection kits should be purchased from DPS General Stores.

The address is:

**DPS General Services Bureau**

**108 Denson Dr.**

**Austin, TX 78761-5999**

Blood Alcohol Specimen Kit	680-93-8050
Urine Specimen Kit	680-93-8060

Call 512-424-5424 for ordering and price information. Use only these approved test kits, as they are prepared according to strict specifications under DPS authority and knowledge of component preservatives and anti-coagulants.

**Packaging**

Contents of the blood kit include:

- Pre-sealed **Blood Tube Mailer Box**
- **Kit Instruction Sheet** and **Subject Consent Form** (to be retained by officer)
- **Evidence Submission Form**
- 10 mL **Blood Collection Tube** (gray top) containing 100 mg of Sodium Fluoride and 20 mg of Potassium Oxalate
- **Absorbent material** to cushion the Blood Collection Tube
- **Foam padding** with space to hold plastic tube



Toxicology Evidence Collection

- Plastic bag to hold Blood Collection Tube and tissue
- Tamper-evident **Blood Tube Seal** for Blood Collection Tube
- Integrity Seal to reseal box
- Mailing Label
- Plastic Sleeve to hold Evidence Submission Form



**BLOOD COLLECTION KIT**

Follow these steps to assemble a blood collection kit:

**STEP 1:** After specimen has been collected, write the requested information on the tamper-evident Blood Tube Seal and seal the tube by placing it across the top of the stopper and down the sides of the tube.

**STEP 2:** Wrap the glass Blood Collection Tube with the absorbent material and place inside plastic bag.

**STEP 3:** Place the plastic bag inside the plastic tube.

**STEP 4:** Place the plastic tube in the foam padding inside the box.

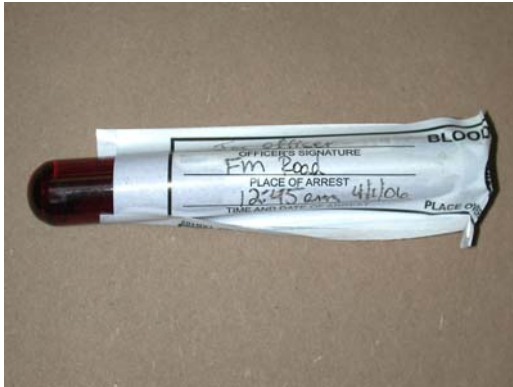


Toxicology Evidence Collection

**STEP 5:** Seal box with enclosed red Integrity Seal. Initial and date the seal so that the writing goes across the seal and the box. Fill out address label and place on top of sealed box.

**STEP 6:** Place the completed submission form inside the plastic sleeve attached to the outside of the box and seal.

**STEP 7:** Protect the specimen from extreme temperatures.



STEP 1



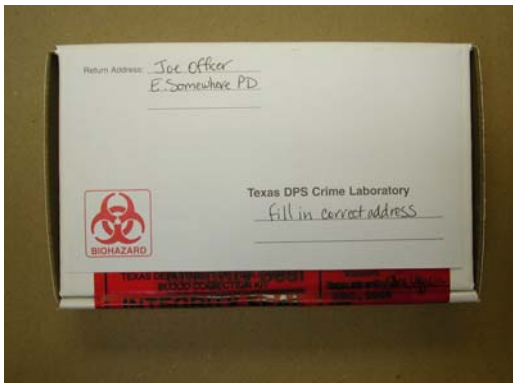
STEP 2



STEP 3



STEP 4



STEP 5



STEP 6



## **Toxicology Evidence Collection**

In the absence of a kit, have the medical personnel use a “**gray top**” tube. Submit with a current Laboratory Submission Form (Lab-06). Package so that tube will not break in transit.

If the expiration date on the Blood Collection Tube has passed, have the medical personnel use a new gray top tube and package in kit per the usual instructions.

### **Submission**

Submit a blood sample using the pre-sealed kits available from DPS General Stores for alcohol and/or drug analyses.

It is not necessary to place the Blood Tube Mailer Box inside an envelope or other box for shipping or any other method of evidence submission. **Crime Laboratory personnel prefer the Blood Tube Mailer Box be submitted without additional packaging.**

Mail or personally submit the blood sample to the appropriate DPS Crime Laboratory as soon as possible.

### **ALCOHOL TESTING OF A BLOOD SAMPLE**

Submit blood sample(s) for alcohol analysis to the laboratory in your service area. Failure to do so may result in a delay in processing the evidence.

NOTE: The DPS Crime Laboratory Service does not perform blood alcohol analysis on a specimen collected from a subject on whom a valid breath test was obtained.

### **DRUG TESTING OF A BLOOD SAMPLE**

Submit blood samples requiring drug testing **ONLY** to the Austin Regional Crime Laboratory.

If blood samples are submitted for both alcohol and drug testing and the alcohol content is determined to be less than 0.12 grams per 100 millimeters (0.12%), it will be forwarded for drug testing analysis at the Austin Regional Crime Laboratory without notification.

For a traffic-related offense, a blood sample is better than a urine sample to submit for drug testing to the Toxicology Section of the Austin Regional Crime Laboratory. Drugs detected in urine show prior usage of drugs and may not match drugs in the blood when the urine specimen was taken.

Drug detection in blood shows the influence of the drug(s) at the time the sample was taken.

A Laboratory Report will give the identity of the drug(s) and the concentration(s) of common drugs that cause driving impairment. The concentrations can be compared to literature values to support impairment cases.

If the investigative needs of a traffic-related offense call for it, the Toxicology Section may analyze a urine sample and a blood sample from the same individual. Results from both samples may allow the toxicologist to give a broader range of information regarding the drug use and impairment of the suspect.



## Toxicology Evidence Collection

**IMPORTANT:** Inform the Toxicology Section to expect the submission of a urine sample and blood sample for drug testing from the same individual. Note on the Urine Submission Form about the blood sample, and note on the Blood Submission Form about the urine specimen.

If the presence of **cocaine** is suspected in the blood sample, keep the sample refrigerated or submit as soon as possible. Cocaine will continue to degrade in blood after the sample has been drawn from an individual. Refrigeration retards the degradation.

### DEATH INVESTIGATIONS

In death investigations, the Toxicology Section normally performs analysis of blood, vitreous, and/or urine specimens.

- **Blood** can be analyzed to determine intoxication deaths or contributing factors for other death causes.
- **Vitreous** is analyzed primarily to support the blood alcohol level or analyzed when the blood is contaminated.
- **Urine** is analyzed primarily to support the drug detection in blood, or to evaluate the time of drug usage relative to time of death.

Other specimens collected at the autopsy should be frozen and stored for submission at a later date if a need develops for a particular specimen.

Please note on the evidence submission form which additional specimens are available. These could be important in cases involving special situations.

If there is a question about a special situation, call the Austin DPS Crime Laboratory Toxicology Section or your DPS Crime Laboratory to determine the appropriate specimens to be submitted.

When requested, the Toxicology Section will perform analysis of blood, vitreous, and/or urine specimens for other types of investigations, such as sexual assaults, boating accidents, etc.

### PROCEDURES FOR URINE KIT

#### Collection

The urine collection **must be witnessed** by the arresting officer or his/her representative. This is documented on the paperwork that accompanies the kit.

#### Packaging

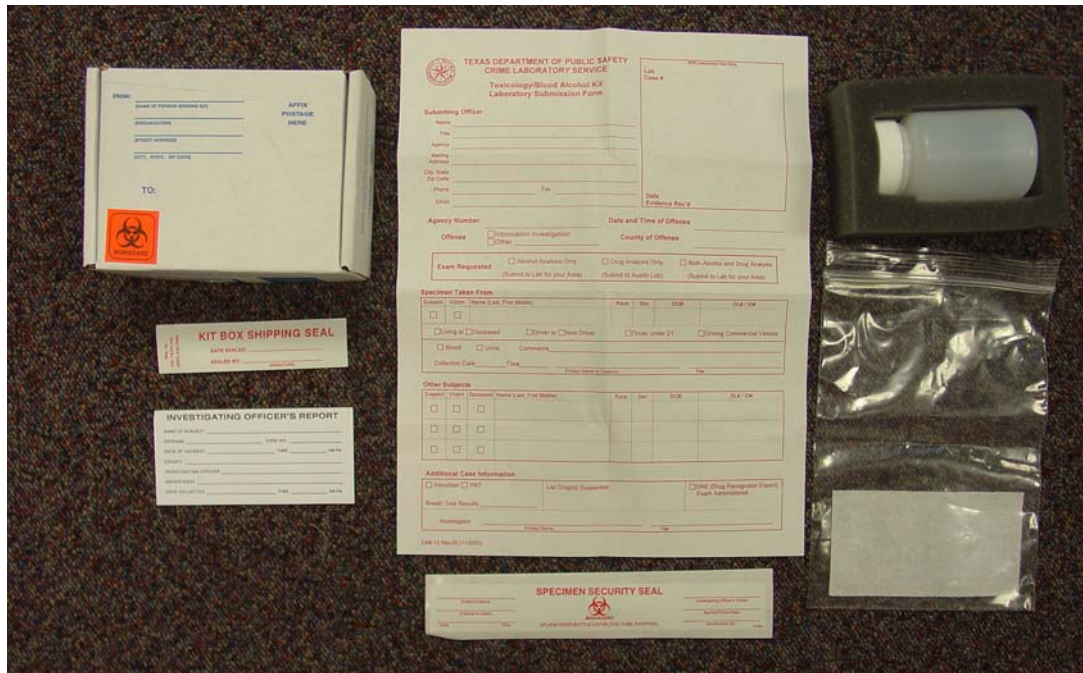
Contents of the urine kit include:

- Pre-sealed **Urine Kit Mailer Box**
- **Kit Instruction Sheet** and **Subject Consent Form** (to be retained by the officer)
- Evidence Submission Form



Toxicology Evidence Collection

- **Foam padding** with space to hold specimen bottle
- Pre-sealed 100 mL Urine Specimen Bottle
- **Plastic specimen bag** containing a liquid adsorbing pad
- Investigating Officer's Report (with Chain of Custody) Label for plastic bag
- Tamper-evident **Specimen Security Seal** for specimen bottle
- **Kit Box Shipping Seal** to reseal box



**URINE COLLECTION KIT**

Follow these steps to assemble a urine collection kit:

**STEP 1:** Immediately after receiving the specimen bottle, replace bottle cap and tighten to prevent leakage.

**STEP 2:** Remove backing from the Specimen Security Seal and affix center of seal on the bottle cap and press ends of seal down both sides of the bottle. The collection witness should initial the specimen seal.

**STEP 3:** Affix the Investigating Officer's Report Label to the plastic bag.

**STEP 4:** Place the specimen bottle inside the foam holder and then insert into the plastic bag. Press the seal closed.

**STEP 5:** Insert the plastic bag in the mailing box.

**STEP 6:** The kit instructions describe placing the completed submission form on top of the plastic bag and close the lid.





## **Toxicology Evidence Collection**

**Crime Laboratory personnel request that the completed submission form be placed inside an envelope and taping the envelope to the outside of the mailing box. Do not place the submission form in the box if you are able to secure it on the outside of the box.**

**STEP 7:** Secure the lid of the box with the Kit Box Shipping Seal where indicated. Initial and date so that the writing goes across the seal and the box.

**STEP 8:** Complete the mailing information on top of the box.

**STEP 9:** Protect the specimen from extreme temperatures.

### **Submission**

- Submit a urine specimen using the pre-sealed kits available from DPS General Stores.
- It is not necessary to place the Urine Kit Mailer Box inside an envelope or other box for shipping or any other method of evidence submission. **Laboratory personnel prefer the Urine Kit Mailer box be submitted without additional packaging (other than the envelope containing the submission form).**
- Mail or personally submit the urine kit to a DPS Crime Laboratory as soon as possible.

### **ALCOHOL TESTING OF A URINE SPECIMEN**

Contact the DPS Crime Laboratory servicing your area regarding the submission of a urine specimen to that laboratory for alcohol testing. Some field laboratories will test a urine specimen for alcohol content. However, a field laboratory may forward the urine specimen to the Austin DPS Crime Laboratory for alcohol testing. To avoid unnecessary delays, contact your crime laboratory to determine if they will accept a urine specimen for alcohol testing.

### **DRUG TESTING OF A URINE SPECIMEN**

In driving cases involving an examination by a Drug Recognition Expert (DRE), submit a urine sample only to the Austin DPS Crime Laboratory for drug testing.

Submission of urine in cases without the DRE evaluation is discouraged.

A **urine specimen** must be submitted when the detection of Marijuana is needed. The Toxicology Section of the Austin DPS Crime Laboratory will only identify 9-Carboxy-THC metabolite (from Marijuana usage) in urine and not blood.

Testimony from urine analysis is limited in support of your case for driving impairment.

Generally, drug detection in urine indicates usage of the drug(s) at some time in the past. A Laboratory Report for urine testing will only give the identity of the drug(s) in the urine and not the concentration since the quantity of a drug in urine is of limited interpretative value to show impairment.



**DETECTION OF DRUGS AND DRUG METABOLITES**

Included is a description of drugs that we currently endeavor to detect in driving cases submitted to our Toxicology section in our Austin laboratory. **This is not a complete list.** For assistance with requests for drugs to test for, contact a lab analyst.

**Blood**

We perform a screen for six classes of drugs to determine the possibility of drugs in the sample (see table **BLOOD SCREEN DRUG CLASSES**). The screen does not identify any specific drug and must be followed with confirmation to identify the drugs present.

Cases which fall below screen cut-off levels are reported as “no drugs detected” unless additional information is provided to indicate significant impairment or the involvement of a drug not detectable by the screen (see **DETECTION OF ADDITIONAL DRUGS**).

Upon confirmation, we measure the concentration (amount) of the common drugs that can cause driving impairment. The concentration can be compared to literature values to support impairment cases.

**Urine**

In addition to the six classes of drugs screened for in blood, DPS also screens for Marihuana metabolite in urine (see table **URINE SCREEN DRUG CLASSES**). Some drugs undetected in blood may be detected in urine due to higher concentrations and the presence of different metabolites (the products of drug metabolism in the body).

For urine specimens, the concentration (amount) of drug is not reported - only the fact that the drug has been confirmed.

**Detection of Additional Drugs**

Cases where specific drugs are listed as suspected but are not detected by screening undergo additional testing. **Information regarding significant impairment or additional suspected drugs should be listed on the submission form.** Drugs detected by this additional testing method include the following:

Amitriptyline	Doxepin	Methaqualone	Tramadol
Carbamazepine	Doxylamine	Methocarbamol	Trazodone
Carisoprodol	Fentanyl	Mirtazapine	Valproic acid
Chlorpheniramine	Hydroxyzine	Pentazocine	Zaleplon
Chlorpromazine	Imipramine	Pethidine	Zolpidem
Cyclobenzaprine	Ketamine	Phenytoin	
Desipramine	Meprobamate	Promethazine	
Diphenhydramine	Methadone	Propoxyphene	



**Toxicology Evidence Collection**

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For information concerning these and other drugs/medications, refer to common reference materials (e.g. Physicians Desk Reference [PDR]).

Refer to the beginning of this Toxicology section of this handbook for a listing of drugs for which we do not test.

**Table 1: BLOOD SCREEN DRUG CLASSES**

<b>CLASS OF DRUG FOR SCREENING</b>	<b>CUTOFF CONCENTRATION</b>	<b>DRUGS DETECTED IN CONFIRMATION</b>
amphetamines	0.1 mg/L	Amphetamine Methamphetamine **MDMA **MDA **phentermine **ephedrine **phenylpropanolamine
cocaine/metabolite	0.1 mg/L	cocaine benzoylecgonine cocaethylene
opiates	0.1 mg/L	morphine codeine hydrocodone hydromorphone oxycodone oxymorphone
barbiturates	0.1 mg/L	butalbital secobarbital Phenobarbital *meprobamate *carisoprodol *phenytoin *carbamazepine
benzodiazepines	0.02 mg/L	diazepam nordiazepam alprazolam flunitrazepam **chlordiazepoxide **desalkylflurazepam **midazolam
phencyclidine	0.05 mg/L	**phencyclidine

0.1 mg/L (milligrams per liter) = 100 ng/mL (nanograms per milliliter)

\* Not detected by screen, but are sometimes confirmed in combination with detected barbiturates

\*\* No quantitation (amount determination) performed.

**Table 2: URINE SCREEN DRUG CLASSES**

<b>CLASS OF DRUG FOR SCREENING</b>	<b>CUTOFF CONCENTRATION</b>	<b>DRUGS DETECTED IN CONFIRMATION</b>
amphetamines	0.3 mg/L	amphetamine methamphetamine MDMA MDA phentermine ephedrine phenylpropanolamine
cocaine/metabolite	0.3 mg/L	cocaine benzoylecgonine cocaethylene
opiates	0.3 mg/L	codeine hydrocodone hydromorphone morphine oxycodone oxymorphone 6-monoacetylmorphine
barbiturates	0.2 mg/L	butalbital phenobarbital secobarbital *meprobamate *carisoprodol *phenytoin *carbamazepine
benzodiazepines	0.2 mg/L	alprazolam chlordiazepoxide clonazepam desalkylflurazepam diazepam nordiazepam flunitrazepam lorazepam midazolam oxazepam temazepam
phencyclidine	0.025 mg/L	phencyclidine
Carboxy-THC	20 ng/mL	Carboxy-THC (Marihuana)

0.1 mg/L (milligrams per liter) = 100 ng/mL (nanograms per milliliter)

\*Not detected by screen, but are sometimes confirmed in combination with detected barbiturates.



## **INTRODUCTION**

Eight of the DPS Crime Laboratories provide biological case screening for the presence of blood and/or body fluids and STR-based DNA testing on evidence from criminal investigations. Examinations performed will be based on the type of case submitted and the quality and quantity of forensic samples detected.

Biological evidence may be submitted to the Regional Crime Laboratories in Austin, Corpus Christi, El Paso, Garland, Houston, Lubbock, McAllen, and Waco.

Obtaining DNA results is dependant on the size and condition of the evidentiary stain and/or environmental conditions to which the stain has been exposed.

**The following determinations may be requested when submitting evidence for biological screening/DNA examinations:**

- **Presence of biological material**
- **Presence of human DNA**
- **Comparison of question and known DNA profiles**
- **Preservation of trace evidence**

Additionally, a DNA profile may be entered into the Combined DNA Index System (CODIS) that contains DNA profiles from felony offenders and forensic case samples. Profiles can be searched against other profiles for the purpose of helping to generate investigative leads.

## **SAFETY CONSIDERATIONS**

At a minimum, latex, nitrile, or other non-porous polymer gloves must be worn when recovering and packaging biological evidence. Personal protective equipment such as eye protection and lab coat are recommended in addition to the gloves.

All biological stains and reference samples should be treated as a biohazard (Universal Bloodborne Pathogen Precautions). These samples could potentially expose the handler to HIV, Hepatitis B and C, or other pathogens.

If blood samples are shipped such that they would be traveling by air, they must be packaged by IATA (International Air Transport Association) regulations

## **COLLECTION**

Following proper collection and evidence handling procedures reduces the possibility of evidence contamination and DNA degradation. Therefore, observe the following guidelines:

- Be careful not to mix known reference standards with questioned samples.
- Package individual items of clothing from the same person in separate containers.
- Do not package the suspect's evidence, such as clothing, with the victim's items.



## **Biological Screening/DNA Evidence Collection**

- Wear gloves and change them, as necessary, or when they become soiled.
- Avoid talking, coughing, or sneezing over the unpackaged evidence.

### **Collection of Evidentiary Samples**

Observe the following steps to collect evidence samples:

- Document and photograph the removal of stains.
- Use sterile swabs to absorb wet stains from non-absorptive surfaces.
- Cut out questioned stains from large items such as car seats and bedding.
- Dampen a sterile swab, using sterile water, to collect dry stains from walls or other larger items. Do not scrape dried stains. They can flake into dust and become static, making the particles difficult to handle.
- **IMPORTANT:** Air dry any wet items or swabs before packaging and sealing.

### **Collection of Known Reference Samples**

- Collect blood standards into purple top blood tubes. Purple top blood tubes contain a chemical preservative, EDTA.
- Collect buccal samples (swabbings of the inner cheeks of the mouth) onto sterile cotton swabs and air dry prior to packaging. To avoid possible contamination, allow the individual to collect the sample him/herself in the presence of a witness.
- Information of suspected blood transfusions of the victim and/or suspect should be provided to the laboratory.

## **PRESERVATION AND PACKAGING**

Questioned stains and known reference samples naturally degrade. However, the degradation process may be slowed by proper collection and preservation:

- Thoroughly **dry the wet or moist items**, such as clothing or swabs, before packaging.
- **Refrigerate liquid biological samples** until submission to the laboratory.
- **Freeze tissue samples** until transporting to the laboratory for submission.
- Package items in **paper**. Do not use plastic packaging for biological evidence.
- Store the packaged items in a cool, dry area. Avoid sunlight, heat, and excessive humidity.
- **Refrigerate sexual assault kits** if they contain liquid samples, such as blood, until submitted to the laboratory. If uncertain, the kits should be refrigerated. Do not freeze the kits.



## **Biological Screening/DNA Evidence Collection**

- Label and seal all packaging properly. **IMPORTANT:** Mark all packages with biological hazard stickers.



- Contact your local laboratory for specific instructions on collection, packaging, and submission procedures.

### **SUBMISSION OF BIOLOGICAL EVIDENCE**

When submitting a case to a DPS Crime Laboratory, follow these steps:

1. It is preferred that the number of items submitted be limited to 10 or fewer in order to facilitate more efficient case processing and reduce turn around time, however, allowances can be made on a case by case basis. If necessary, additional items may be submitted at a later time.
2. For DNA analysis, the laboratory uses a maximum of 10 samples as a general rule.
3. For bulky items, such as bedding, mattresses, car seats, etc., please contact the laboratory prior to submission to determine relative importance, facilitate processing, and reduce storage space requirements.
4. For sexual assault cases, submit the following:
  - examination kits
  - victim's clothing
  - suspect standards

Based on the circumstances of the investigation, additional items may be submitted.

5. Submit applicable supporting documentation:
  - offense reports and witness statements with the evidence
  - autopsy reports or medical records from the victim, when available and where applicable.
  - photographs and sketches of the crime scene, as necessary.

**Note:** If the investigation and medical records and photographs are not submitted with the evidence, the examination of the case may be halted while the analyst waits to receive these items from the submitting agency.





## **Submission of Sexual Assault Kits**

In the state of Texas, licensed physicians and Sexual Assault Nurse Examiners (SANE nurses) are authorized to collect samples from sexual assault victims.

Typical evidence required in most sexual assault investigations includes:

- Swabs from victim (vaginal/oral/rectal - with at least four vaginal swabs) air dried at room temperature (for the sake of consistency, each orifice swab collection should be performed with multiple swabs simultaneously; unless conditions warrant otherwise).
- Blood specimen from victim (purple top [EDTA] tube)
- Buccal specimen from victim (four swabs) air dried at room temperature
- Vaginal, oral, or rectal smears from victim
- Swabbings of areas of the victim's body which were either licked or bitten by the suspect during the assault (and supply the reasoning for their collection)
- Pubic hair combings from victim
- Head hair combings from victim
- Fingernail clippings from victim if blood or tissue is visible
- Pulled pubic hair standard from victim
- Pulled head hair standard from victim
- Clothing from victim (especially panties worn after the assault)
- Blood specimen from suspect (purple top [EDTA] tube)
- Buccal sample from suspect (four swabs) air dried at room temperature
- Penile swabs from suspect (only if apprehended a short time after the assault occurred) or the victim (if the victim is male)
- Pubic hair combings from suspect, only if apprehended a short time after assault has occurred
- Pulled pubic hair from suspect
- Pulled head hair from suspect, when applicable
- Clothing from suspect, when applicable
- Fingernail clippings from suspect if blood or tissue is visible (only if apprehended a short time after the assault occurred)



**Biological Screening/DNA Evidence Collection**

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Additional samples that may be collected from the victim if it is suspected that the victim may have been drugged: blood sample collected in a gray top tube and a urine specimen. These samples should be packaged separately from the victim's sexual assault kit and preferably in the DPS sanctioned blood and urine collection kits respectively.

Include the following information with the submission of the sexual assault evidence:

**Note: The following information is an aid for laboratory personnel to interpret items of evidence submitted by police officers or medical personnel.** These pages may be copied and completed or a similar form may be found in the Texas Evidence Collection protocol published by the Office of Attorney General's Sexual Assault Prevention and Crisis Service Division. The following is a link to the protocol. The questionnaire is located on pp. 86-87.

[http://www.oag.state.tx.us/AG\\_Publications/pdfs/evidence\\_collection.pdf](http://www.oag.state.tx.us/AG_Publications/pdfs/evidence_collection.pdf)



Biological Screening/DNA Evidence Collection

1. Did the victim have sexual contact with anyone other than the assailant in the week prior to the assault? YES or NO
  - a) If YES, was it within the last 24 hours?
  - b) If YES, how many hours prior to the assault?
2. What is the physical description of the suspect, even if name is unknown?
3. Was the victim's clothing worn?
  - a) Before the attack? YES or NO
  - b) After the attack? YES or NO
  - c) Both before and after? YES or NO
4. How much time elapsed between the sexual assault and the examination?
5. Did the suspect put their mouth on the victim's genitals? YES or NO
6. Did the suspect lick, bite, or otherwise salivate on any other portion of the victim's body? YES or NO
7. Did the suspect's penis:

	Penetrate?	Ejaculate?
The vagina	YES or NO	YES or NO
The mouth	YES or NO	YES or NO
The rectum	YES or NO	YES or NO

8. Was a condom used during the assault? YES or NO
9. Was the suspect injured during the assault? YES or NO
  - a) If YES, how was bleeding involved?
  - b) Where was bleeding involved?
10. Date of last menstrual period (if applicable).
11. Are there indications that a lubricant was used (e.g. K-Y jelly)? YES or NO
12. Is it suspected that drugs may have been involved? YES or NO
  - a) If yes, approximate date and time when it is thought they may have been taken:
  - b) Date and time of sample collection



## **INTRODUCTION**

Trace evidence is composed of several different sub-disciplines. This section outlines the information that laboratory examinations may provide for the major sub-disciplines of trace evidence: hair, fiber, paint, glass, footwear and tire impressions, gunshot primer residue (GSR), and lamp filaments. Collection and packaging procedures are also provided. If analysis is requested in areas including soils, physical/fracture matches, other materials and unknown substances, please contact the laboratory in your service area for specific instructions on collection, packaging and submission procedures.

## **SAFETY CONSIDERATIONS**

Trace evidence is often associated with biological fluids and biohazard materials. Universal Bloodborne Pathogen Precautions should be observed. Personal protective equipment such as eye protection, lab coat, and latex, nitrile, or other non-porous polymer gloves is recommended.

Razor blades, scalpels, knives and broken glass may be encountered in Trace evidence collection. Personal protective equipment such as eye protection and protective clothing is recommended.

## **HAIR**

Hair evidence can be encountered in a wide variety of crimes and can provide strong corroborative information for placing an individual at a scene. However, based upon microscopic comparisons, hair cannot be individualized to a single person to the exclusion of all other individuals. Microscopic comparisons will only be performed on head and pubic hairs since body hairs do not contain a sufficient number of characteristics for comparison.

**The following determinations may be made during a hair examination:**

- **Human versus non-human**
- **Animal species**
- **Body origin (head, pubic, body, etc.)**
- **Racial characteristics**
- **Alterations to human hair (bleached, dyed, burned, etc.)**
- **Similarity between evidence hairs and standards**
- **Suitability of hair for DNA analysis**

### **Collection of Evidentiary Hair Samples**

- Submit the whole item for processing, if possible.
- Picking method – gloved fingers or tweezers are used to remove evidence hairs.



## **Trace Evidence Collection**

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- Adhesive lift method – fingerprint tape, cellophane tape or other clear adhesive tape is patted over the item to recover surface debris.
  - Use multiple strips of tape on larger items so tape does not become “overloaded”.
  - Place tape strips onto clear, colorless plastic sheets and label.
- Combing method – a comb is used to thoroughly comb an individual's hair to recover transferred hair evidence.
  - Cotton can be placed in the teeth of the comb to improve recovery.
  - The individual must stand over a clean sheet of paper to collect the debris.
- Vacuuming method – a portable vacuum equipped with special traps is used to lightly vacuum the surface of interest.

### **Collection of Hair Standards**

- Obtain standards from all possible sources (suspect, victim, and other individuals common to an environment).
- Obtain standards as soon as possible after the crime. Hair characteristics change naturally over time so the most meaningful comparisons are those conducted close to the time of the incident in question.
- Obtain a **minimum** of 25 pulled and combed hairs from various areas of the head (e.g. top of head, side of head, back of head, etc.) for a total of about 100 head hairs.
- Obtain a **minimum** of 25 pulled and combed hairs from the pubic region.
- Consideration should be made to obtain known reference standards for possible DNA analysis.

### **Packaging Hair Evidence**

- Single hairs or small amounts of hair can be placed into paper folds. Paper folds should be placed into paper envelopes with sealed corners.
- Adhesive lifts that have been put onto plastic sheets can be placed into paper envelopes.
- Combs and combings can be folded into the collection paper and placed into paper envelopes with sealed corners.
- Vacuum traps can be covered with a lid or cap and placed into separate containers such as paper bags.
- Hair standards from each body region should be placed into separate containers.
- Hair from different individuals should be packaged separately.



## Trace Evidence Collection

- Evidence hairs and hair standards should be packaged separately.
- All packaging should be labeled and sealed properly.
- Hair evidence may be submitted to the DPS Crime Laboratories in Austin, Garland, Houston, Lubbock, or McAllen.

### FIBERS

Fiber transfers most often occur from carpet, blankets, sweaters and damaged clothing and can be important in many different types of cases. Fiber evidence can be recovered from such surfaces as clothing, fingernails, hair combs, weapons, bullets, bedding, seating and automobile parts. As fibers shed, they can adhere to clothing or other surfaces for a short period of time and can then be used to establish a link between a suspect, victim and the crime scene.

**The following determinations may be made during a fiber examination:**

- **Fiber type**
- **Possible product uses (carpeting, clothing, etc.)**
- **Similarity between evidence fibers and standards**
- **Fabric physical match (jigsaw match) back to source**

### Collection of Evidentiary Fiber Samples

- Submit the whole item for processing, if possible.
- Picking method – gloved fingers or tweezers are used to remove fibers.
- Adhesive lift method – fingerprint tape, cellophane tape or other clear adhesive tape is patted over the item to recover surface debris.
  - Use multiple strips of tape on larger items so tape does not become “overloaded”.
  - Place tape strips onto clear, colorless plastic sheets and label.
- Combing method – a comb is used to thoroughly comb an individual’s hair to recover the transferred fiber evidence.
  - Cotton can be placed in the teeth of the comb to improve recovery.
  - The individual must stand over a clean sheet of paper to collect the debris.
- Vacuuming method – a portable vacuum equipped with special traps is used to lightly vacuum the surface of interest.



### **Collection of Fiber Standards**

- If the fiber source can be transported and packaged, submit the whole item for analysis.
- If the fiber source cannot be transported or packaged, cut representative samples from various areas for submission.
- Sample from areas that are visually different (different colors, faded areas, worn sections, etc.); samples should be at least 1 square inch in size.

### **Packaging Fiber Evidence**

- Single fibers or small amounts of fibers can be placed into paper folds. Paper folds should be placed into paper envelopes with sealed corners.
- Adhesive lifts that have been put onto plastic sheets can be placed into paper envelopes.
- Combs and combings can be folded into the collection paper and placed into a paper envelope with sealed corners.
- Vacuum traps can be covered with a lid or cap and placed into separate containers.
- Fiber standards can be placed into paper envelopes with sealed corners.
- Fiber standards from different areas should be packaged separately.
- Evidence fibers and fiber standards should be packaged separately.
- All packaging should be labeled and sealed properly.
- Fiber evidence may be submitted to the DPS Crime Laboratories in Austin, Garland, Houston, Lubbock, or McAllen.

## **PAINT**

Paint evidence is most often encountered in burglary and hit and run cases. Paint recovered from burglary tools may be compared to known paint from the scene. Paint recovered from the clothing or vehicle of a hit and run victim may be used to identify the make and model of the suspect vehicle or can be compared directly to a vehicle suspected of involvement.

**The following determinations may be made during a paint examination:**

- **Paint type (automotive, architectural, etc.)**
- **Possible make and model of vehicle using automotive paint database**
- **Similarity between evidence paint and standards**
- **Fracture physical match of paint samples**



### **Collection of Evidentiary Paint Samples**

- If the item containing the evidence sample can be transported and packaged, submit the whole item for analysis.
- Clean forceps or tweezers can be used to remove chips of transferred paint.
- Clean scalpels, razor blades and knives can be used to scrape smeared paint from surfaces. The paint smears should be collected into a paper fold prior to packaging.
- Avoid using adhesive tapes to collect paint samples as the adhesive may interfere with analysis.

### **Collection of Paint Standards**

- If the paint source can be transported and packaged, submit the whole item for analysis.
- A clean scalpel, razor blade or knife can be used to remove representative samples of paint from the paint source for submission.
- Sample from all damaged areas separately.
- Sample from areas that are visually different (different colors, different layer sequence, different substrates, etc.).
- Samples should be at least 1 square inch in size.
- Samples should include all paint layers present down to the substrate.
- Samples should be collected by carving or chipping the paint samples instead of scraping the paint in order to ensure all layers are present.

### **Packaging Paint Evidence**

- Evidence paint chips, smears and paint standards should be collected into paper folds. Paper folds should be placed into envelopes with sealed corners.
- Paint standards from different areas should be packaged separately.
- Evidence paint and paint standards should be packaged separately.
- All packaging should be labeled and sealed properly.
- Paint evidence may be submitted to the DPS Crime Laboratories in Austin, Garland, Houston, Lubbock, or McAllen.





## **GLASS**

Glass evidence is most often encountered in burglary and hit and run cases. Glass recovered from burglary tools or from a suspect's clothing, shoes and hair may be compared to known glass from the scene. Glass recovered from the clothing of a hit and run victim may be compared to the known glass from the suspect vehicle.

**The following determinations may be made during a glass examination:**

- **Glass type (tempered glass, container glass, etc.)**
- **Direction of force used to break the glass**
- **Order and direction of projectiles fired through the glass**
- **Similarity between evidence glass and standards**
- **Fracture physical match of glass samples**

### **Collection of Evidentiary Glass Samples**

- If the item containing the evidence glass can be transported and packaged, submit the whole item for analysis.
- Clothing items that may contain glass should be handled as little as possible to avoid dislodging glass evidence.
- Clean forceps or tweezers can be used to remove pieces of glass from various surfaces.
- Adhesive tape can be used to remove small pieces of glass from various surfaces and should be placed onto clear plastic sheets for storage.
- Combing method – a comb is used to thoroughly comb an individual's hair to recover the transferred glass evidence.
  - Cotton can be placed in the teeth of the comb to improve recovery.
  - The individual must stand over a clean sheet of paper to collect the debris.
- Large pieces of glass should be kept intact for possible physical match.

### **Collection of Glass Standards**

- If the glass source can be transported and packaged, submit the whole item for analysis.
- Sample from **all** damaged areas separately.
- Sample several areas in large windows and glass pieces to account for variations that may exist.



## **Trace Evidence Collection**

- Both panes in double paned glass (windshields, structural glass, etc.) should be sampled.
  - Sample several areas within each pane to account for variations that may exist.
  - Label glass pieces with orienting marks (up/down, inside/outside, etc.)

### **Packaging Glass Evidence**

- Glass pieces should be packaged in containers such as boxes and padded envelopes to protect broken and fractured edges from additional breakage.
- Evidence glass and glass standards can be placed into envelopes with sealed corners.
- Glass that has been taped to plastic sheets can be placed into envelopes.
- Glass from different areas and items should be packaged separately.
- Evidence glass and glass standards should be packaged separately.
- All packaging should be labeled and sealed properly.
- Glass evidence may be submitted to the DPS Crime Laboratory in Austin.

### **IMPRESSION EVIDENCE (FOOTWEAR AND TIRE IMPRESSIONS)**

Footwear and tire impressions are routinely present at crime scenes and are frequently overlooked. Examinations of impression evidence can provide valuable investigative leads and if properly documented and collected, can allow for a comparison to a suspected source.

Two-dimensional impressions are those with no significant depth. A thin deposit/removal of dust, mud, blood, or other material from a shoe/tire onto/from a hard surface may create these impressions. Some two-dimensional impression will be clearly visible while others may be partially or totally latent.

Three-dimensional impressions are those that have a significant depth to them, in addition to the length and width of the impression. Three-dimensional impressions are most commonly found in soil, sand, or snow and the detail within the impression may vary according to the substrate.

**The following determinations may be made during an impression evidence examination:**

- **Type, make, model and approximate size of shoe/tire**
- **Similarity between evidence shoe/tire and standards**
- **Possible identification of shoe/tire with unique accidental characteristics**



## Collection of Imprint/Impression Evidence

**Always** photograph the impression evidence prior to any processing or removal from the scene.

- **Photography Methods and Guidelines**

1. Take overall photographs to document location of impression.
2. Camera should be placed on a tripod directly over and perpendicular to the impression (refer to Figure 1).
3. A ruler should be placed alongside and at the same depth as the impression.
4. Camera height should be adjusted so that the impression and scale fill the frame.
5. Elongated impression such as tire treads should be photographed using overlapping exposures.
6. Side lighting at various angles and directions can illuminate an impression more clearly. A shade may need to be used to block sunlight.
7. Take several photographs to ensure quality images are obtained.



**Figure 1**

## TWO-DIMENSIONAL IMPRESSIONS

1. Photograph the impression.
2. If the item containing the impression can be removed and transported, submit the whole item for analysis. Care should be taken to not disturb the impression during the removal process.



**Trace Evidence Collection**

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3. Locate latent impressions with oblique lighting. This can be accomplished by shining a flashlight across the surface at a low angle and viewing any dust impressions that appear.
4. Attempt to enhance or lift the impression only if the item cannot be retrieved from the scene and submitted to the laboratory.
5. Dust and residue impressions may be lifted with an electrostatic lifting device or gelatin lifter. Contact your local laboratory for more information.
6. Trained personnel can use chemical enhancement techniques to detect and improve prints made in blood or other substances. Contact your local laboratory for more information.

**THREE-DIMENSIONAL IMPRESSIONS (CASTING)**

1. Photograph the impression.
2. Use dental stone or die stone to cast the impression. Plaster of Paris is no longer recommended as an acceptable casting material.
3. Two (2) pounds of dental stone can be placed into a large re-sealable plastic bag for mixing and use at a scene. This amount should be sufficient for an average-sized shoe impression.
4. Mix about ten (10) ounces of water to every (two) 2 pounds of dental stone and mix thoroughly for 3-5 minutes. The mixture should have the consistency of pancake batter. Add more water or dental stone as needed.
5. Carefully pour the mixture into or next to the impression and allow the dental stone to gently flow into it. Fill the impression completely so that the dental stone overflows.
6. When the cast is firm but still soft, identifying marks can be scratched into the back. A permanent marker can also be used when the cast is dry.
7. Allow the cast to dry for a minimum of 20 minutes in warm weather and longer in cold weather.
8. Carefully lift the cast. Do not clean the cast as this will be done in the laboratory.
9. Package the cast in a paper bag or cardboard box (never plastic) and allow it to dry for an additional 48 hours before final packaging.
10. Tire impressions should be cast to include a minimum of three feet of the impression. Mix the dental stone in the same ratio as before with 2-3 times the amount of dental stone. Use a bucket to accommodate the extra material for mixing and pouring.

**SHOE/TIRE STANDARDS**

- Document the footwear of any medical or law enforcement personnel who have entered the scene for elimination purposes. Photographic documentation with a scale is usually sufficient.



## **Trace Evidence Collection**

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- Footwear from the victim, suspect and other individuals who may have entered the scene should be collected and submitted to the laboratory.
- Tires should remain mounted on a vehicle so that position, wear and load can be duplicated. The vehicle may be towed to laboratory for processing or can be done on-site by trained personnel.

### **TIRE TREAD STANDARDS**

1. Use a smooth, clean, flat surface such as a board or concrete floor.
2. Tape butcher paper to the board or floor that is a wider width than the tires. The paper should be long enough to document one revolution of the tire.
3. Apply a thin film of silicone spray or petroleum jelly over the tread of the tire.
4. Roll the tire, still mounted to the vehicle, along the paper. Mark where one revolution begins and ends, inside/outside of tire, position of tire, and direction of travel.
5. Apply magnetic powder to the paper and shake the paper to remove the excess.
6. Roll all four tires and consider the need to roll the spare tire.
7. It may be helpful to photograph the tread pattern of each tire with a scale.
8. Be sure to document the tire's manufacturer, size, DOT number and any other pertinent information located on the tire.
9. Consideration should be given to retaining and/or submitting the actual tires for further examinations, if needed by the laboratory.

### **Packing Imprint/Impression Evidence**

Photographs and negatives should be submitted to laboratory.

- Whenever possible, collect the whole item containing the impression and submit to the laboratory.
- Various packaging materials can be used depending on the size of the object.
- Ensure that the impression is protected so that it cannot be rubbed away. Securing the object inside the packaging can help protect the impression.
- Casts that have been fully dried for at least 48 hours can be packaged in paper or plastic with sufficient packing material to prevent breakage.
- Paper containing rolled tire impressions can be rolled up and submitted in various packaging materials.
- All packaging should be labeled and sealed properly.
- Impression evidence may be submitted to the DPS Crime Laboratories in Austin, Garland, Houston, Lubbock, or McAllen.



## **GUNSHOT PRIMER RESIDUE (GSR)**

Gunshot primer residue is composed of antimony, barium and lead, components of most primer mixtures. This residue may be deposited on the shooter's hands, depending on the type, caliber, and condition of the weapon used and the environmental conditions at the time of the shooting. This type of analysis is done on samples obtained from the hands of persons suspected of recently discharging a firearm. Our Austin laboratory conducts analysis for GSR by SEM-EDS (Scanning Electron Microscopy-Energy Dispersive Spectrometry) that allows for the identification of GSR particles based on morphology and composition. Because only a few microscopic particles are required, samples analyzed by this method have a much higher positive result rate than traditional acid swab samples.

Submit GSR samples to the Austin Regional Crime Laboratory.

**The following determinations may be made during a GSR examination:**

- **Identification of GSR particles from the hands of suspected shooters**

### **Collection of GSR Evidentiary Samples**

- GSR-SEM kits may be purchased from Evident, Kinderprint, Lighting Powder, Sirchie, Tri-Tech and other law enforcement suppliers.
- Collection procedures are included with commercially prepared kits. It is very important that proper procedures be followed.
- Samples should be taken immediately upon contact with the subject.
- The subject should not wash or wipe his hands or be fingerprinted prior to sampling.
- Circumstances exist where the analytical results for GSR are ambiguous and it is laboratory policy that samples collected under these circumstances will not be examined without proper justification. These circumstances are:
  - Samples obtained more than 4 hours after a shooting are almost always negative for GSR. GSR deposited on the hands of living persons decline rapidly so that after 2 hours, very little GSR remains. It is imperative to obtain samples as soon after the shooting as possible.
  - Samples obtained from the hands of close-range shooting victims, including suicides, are generally of no evidentiary value. Laboratory analysis cannot determine if GSR deposited on the hands of close-range shooting victims was deposited as a result of that person firing the weapon or as a result of the person being in front of the muzzle of the weapon. Analysis cannot answer the question of who fired the weapon in these circumstances.
- Proper case information to be supplied to the laboratory must include:
  - Investigating officer/agency
  - Agency case number



**Trace Evidence Collection**

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- Subject's name
- Type of weapon and ammunition
- Date and time of shooting
- Date and time of sample collection

**Packaging GSR Evidence**

- Package the collected samples according to kit instructions.
- All packaging should be labeled and sealed properly.

**LAMP FILAMENTS**

It may be important to determine if the lights of a vehicle were on or off at the time of an accident. An examination of the filament(s) inside the vehicle lamps may allow this determination to be made.

**The following determinations may be made during a filament examination:**

- **Lamp on or off at time of damage**
- **Lamp burned out**

**Collection of Lamp Filament Evidentiary Samples**

- Document the light switch position ("on" or "off"). Never turn the switch on to see if the lights work. Never attempt to start the vehicle prior to collecting the lights.
- Check for blown fuses or broken wiring in the light circuit. Notify the laboratory of these occurrences.
- Mark each lamp as to its location, function and orientation.
- Lamps located within and closest to the damage should be collected when possible.
- When possible, collect the entire lamp assembly. Cut the wiring and submit the entire assembly intact.
- If the lamp is broken, search the assembly area to ensure that all filaments, filament posts and glass pieces are present.
- If the assembly cannot be removed, either cut the wiring and submit the bulb and socket, or remove each bulb from its socket.

**Packaging Lamp Filament Evidence**

- Carefully package lamps separately.
- Be careful not to contact and damage the fragile filaments.



**Trace Evidence Collection**

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- Disposable foam cups or small boxes are acceptable packaging. Use cotton or tissue padding as needed.
- All packaging should be labeled and sealed properly.
- Vehicular lamp evidence may be submitted to the DPS Crime Laboratories in Austin, Garland, Houston, Lubbock, or McAllen.





## INTRODUCTION

Latent Print evidence is some of the most fragile evidence which may be collected at a crime scene. Evidence may be destroyed simply by coming in contact with other items of evidence or the container in which it is stored.

## SAFETY CONSIDERATIONS

It is not uncommon to encounter bloody prints. Universal Bloodborne Pathogen Precautions should be observed; that is the use of personal protective equipment such as eye protection, lab coat, and latex, nitrile, or other non-porous polymer gloves.

Razor blades, scalpels, knives and broken glass may be encountered as objects that have latent prints on them. Personal protective equipment, at a minimum should be used when collecting such items. Use of additional equipment such as tweezers, is highly recommended for collection. These types of items (those which can cause bodily injury) must be properly packaged in puncture-resistant containers.

All weapons should be submitted to the laboratory unloaded whenever possible.

**If for any reason the weapon is not unloaded, be sure to advise the laboratory of this fact at the time of submission.**

## COLLECTION

Whenever possible, each item of evidence to be examined for latent prints should be stored in a separate container. Evidence should be placed in containers which will not allow the evidence to move around freely. Porous items of evidence such as paper and cardboard may be collected and preserved with multiple items being placed in the container.

- If submitting a set of major case prints, each finger and thumb should have the center, both sides, and the extreme tips inked as shown (**Figure 1**).
- The palms should be completely rolled from tip of fingers to the wrist crease and also the side of the hypothenar area (known as the check writer's palm) (**Figure 2**).
- If your fingertips accidentally show on the sticky side of the tape, place an "X" and your initials over your own prints (**Figure 3**).
- Place an arrow on the front of the lift card to show upward direction (**Figure 4**).
- On the back of each lift card, record the following information (**Figure 5**):
  - Date
  - location from which print was lifted
  - case #
  - person who lifted print



**Latent Print Evidence Collection**

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- diagram or sketch with "X" showing the location of the lift
- A properly inked and rolled 10-print card should have all ten fingers rolled nail to nail with minimal smears, along with plain impression at the bottom. The areas highlighted should be filled out on this card for these prints to be used in latent print comparison (**Figure 6**).



**Figure 1**



**Figure 2**



Figure 3



Figure 4

DATE: 8-7-02	CASE # 02-0012
PRINT LIFTED FROM: DRIVER	
SIDE FRONT DOOR	
WINDOW GLASS (INSIDE)	
LATENTS LIFTED BY: JOE SMITH	
(SKETCH)	

Figure 5



Latent Print Evidence Collection

TRN	DPS NO. (S/D)	FBI NO.	CONTRIBUTOR ORI	LEAVE BLANK
NAME (LAST, FIRST, MIDDLE)			DATE OF BIRTH	PLACE OF BIRTH
SEX	RACE	ETH.	HGT.	WGT.
EYES	HAIR	SCARS, MARKS, TATTOOS, AMPUTATIONS		FPC
SKIN TONE	SOCIAL SECURITY NO.	MISC. NO.	CITZ.	
DRIVER LICENSE NO.	STATE	TYPE	ID CARD NO.	STATE
ALIAS NAME(S)		ADDRESS		CITY STATE ZIP
ORI	ARRESTING AGENCY	TRANS. HAZ. MATERIAL? Y OR N <input type="checkbox"/>	OPER. COM. VEHICLE? Y OR N <input type="checkbox"/>	LIC. PLATE NO. STATE YEAR
NAME:		AGENCY CASE NO.	FIREARM CODE <input type="checkbox"/>	PRINTED BY: DATE
TRIS <b>A001</b>	OFFENSE CODE	GOC	OFFENSE	STATUTE CITATION
			LEVEL & DEGREE	FELONY CAPITAL, 1, 2, OR 3 <input type="checkbox"/>
			MISDEMEANOR A, OR B <input type="checkbox"/>	

Figure 6

**PACKAGING**

Initials and identifying marks should be carefully placed to avoid damage to any area which might contain latent prints.

If evidence is submitted to the laboratory for multiple examinations, such as blood, trace evidence, or drug analysis, as well as latent prints, please note this on your submission and advise the person to whom you are submitting the evidence that this will be a combination submission. The laboratory will determine which examinations will be performed and in what order.



## **Latent Print Evidence Collection**

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All items of evidence submitted that have knowingly been affected by a bodily fluid (a bloody knife in need of prints), must have a biohazard label placed on their container.

When submitting lifted latent prints to the laboratory, make sure that each individual lift card is marked with the following information:

- Exact location from where latent was lifted
- The initials of the investigator lifting the latent print
- Date of the lift
- Whenever possible, a very simple drawing of the item with an "X" being placed in the appropriate location from where the latent was lifted

When submitting paper or cardboard items, it is recommended that they not be treated with any type of latent development chemical prior to submission.

When submitting latent print evidence to the laboratory, the inked rolled finger and palm impression standards should be submitted for comparison if available. If the finger and palm impressions are not available, the investigator should provide the name, race, sex, DOB, and whenever possible, the SID # of the suspect(s) and victim(s).

The use of a computer to transfer files containing images is becoming more prevalent. If sending lifted latent prints and inked impressions in this way is being contemplated, please call the laboratory for further instructions so that we may receive the best quality image with a secure chain of custody.

Unless stated by the submitting official, all lifted latent prints and photographs of developed latent prints will be retained in our files for future comparison purposes.

All physical evidence submitted for processing, whenever possible, will be returned with the report. If the items are not returned with the report, we will ask the officer to pick up the evidence at his/her earliest convenience.

At the completion of our examination, if no identification has been made of the latent prints, they will be forwarded to the Automated Fingerprint Identification System (AFIS) to search for corresponding latent prints.

### **AUTOMATED FINGERPRINT IDENTIFICATION SYSTEM (AFIS)**

The Automated Fingerprint Identification System (AFIS) is a computerized system capable of reading, classifying, matching, and storing fingerprints. All arrest cards submitted to DPS that are Class A and Class B are scanned into the system and stored in the database. Only persons born in 1940 and later are included in the database. The database contains criminal records and some applicant records

Cases with no suspects containing latent prints are entered into the system to search for possible matches against the database of fingerprint records. **If there are suspects in the case, or if there is evidence to be processed, the case should be submitted to the Latent Prints section.**



**Latent Print Evidence Collection**

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Cases, in which known inked prints are not available, should be submitted to AFIS for evaluation. Actual latent prints are preferred, however, if this is not possible, 1:1 photographs of the latent prints can be submitted. They can also be submitted to the laboratory in electronic format; contact the laboratory for further instructions on how this can be accomplished. Regardless of the method of collection/submission, a laboratory submission form must be included with the submission. Directions on where to find an electronic version of this form can be found in the submission of evidence section of this handbook.

Checks submitted for evaluation should be previously processed, or should contain an inked impression. Photos will be made of the inked or latent prints and the submitted check will be returned.

Elimination prints should be submitted whenever possible. At the current time the Texas DPS AFIS cannot search palm prints.



## INTRODUCTION

Forensic or Questioned Document Examiners (including Handwriting Identification Experts) are forensic scientists. One part of their job is to identify (or eliminate) a suspect as the writer of a particular **questioned** handwritten document by comparison of known and questioned handwriting. They are requested to identify the source of a document, identify the machines that produced a document, or ascertain any information which may be of value in criminal or civil litigation – when that information is revealed by the physical analysis of a document.

Because many states do not have licensing requirements and virtually no academic degree programs exist in this field, many people with little or no qualification advertise themselves as Forensic Document Examiners. They use many strategies to get casework from officers and attorneys. The most common strategy involves graphology. Graphology is not identification by handwriting comparison. Rather, it is the practice of attempting to discern a person's personality traits from their handwriting. A graphologist's "handwriting experience" has nothing to do with identification of a writer.

The Texas Department of Public Safety Crime Laboratory Service possesses the only document examination facility in the state of Texas that offers its services to all law enforcement agencies free of charge. The following is a listing of the types of examinations available through our Forensic Document section:

- Handwriting Identification
- Forgery Detection
- Typewriter Identification
- Typewriter Ribbon Transcription
- Photocopier Identification
- Photocopy Fraud Detection
- Chemical Ink Comparison
- Mechanical Printing Identification
- Paper batch and edge matching
- Charred Document Restoration
- Envelope matching
- Latent Writing Impression Restoration
- Physical Document Matching
- Check Protection Identification
- Rubber Stamp / Embossing match





## Questioned Document Evidence Collection

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- Obliteration Restoration
- Alteration Detection
- Document Preparation Sequence Determination
- Counterfeit Detection
- Trash bag matching

### SAFETY CONSIDERATIONS

When it is suspected that materials for collection have been contaminated with biological fluids, it is extremely important that at a minimum, latex, nitrile, or other non-porous polymer gloves be worn when recovering and packaging this evidence. Personal protective equipment such as eye protection and lab coat are recommended in addition to the gloves.

All biological stains and reference samples should be treated as a biohazard (Universal Bloodborne Pathogen Precautions). These samples could potentially expose the handler to HIV, Hepatitis B and C, or other pathogens.

### COLLECTION

The inherent detail available in document evidence is not readily perceived by the layman. This is why it is necessary for the investigator to learn what documents to collect and how to preserve them.

When collecting a document, be sure that information included on the evidence package has been added onto the container (envelope) prior to the document(s) being placed inside of it. Do not place any markings on a document that might otherwise obscure possible latent prints or features of the document itself. Do not process for latent prints before submitting for document examination. Preserve and protect it for latent prints and advise that it may have evidentiary value for latent prints.

Always submit documents in the condition in which they were found. Never staple, type or write on evidence. If an identification mark must be placed on a document, be sure that it is placed in an area that doesn't affect the questioned portion. Never fold a document. If copies must be made for your records, be sure to submit the originals and keep the copies; additional helpful information may be present on a document that might not be obvious.

### Handwriting and Handprinting

- **Verification:** Have acknowledgement of writer or testimony of witness as to authorship of exemplars
- **Admissibility:** Don't submit standards not admissible in court – work this out upon submission
- **Writers:** Submit victim and suspect standards as appropriate



## Questioned Document Evidence Collection

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- **Same style as questioned handwriting:** Longhand must be compared to longhand; printing with printing
- **Same content as questioned handwriting:** Dictate or provide typed text of questioned verbatim (or other combinations of the same words and numerals that appear in the questioned)
- **Known signatures:** (of the suspected name); can be obtained from cancelled checks, employment records, fingerprint arrest cards, etc.
- **All questioned handwriting:** Identification of which might be useful to the case; should be compared with standards
- **Handedness:** Obtain left and right handed standards
- **Recognize disguise:** Note if any exemplars are written more slowly and with less penmanship than other known writings.
- **Compensate for disguise:** Don't let suspect view questioned document. Obtain extensive exemplars (e.g., 5-10 full pages) repeating the questioned document verbatim. Supplement exemplars with normal-course-of-business standards.
- **Duplicate writing conditions:** Note type of paper, pencil, pen, spacing, etc.
- **Contemporaneousness:** Standards should be written about the same time as the questioned – especially with children, adolescents, or elderly
- **Provide information:** In certain situations it may be beneficial to have information on the writer's health, drug use, ambidexterity, etc., during exemplar execution and at the time the questioned document was produced.

### Typewriters

For typewritten questioned documents, it is best to submit the entire typewriter. If removal of the typewriter is not an option, then a sample of keyboard and questioned typing verbatim will suffice. Include with this type of submission the make, model, and serial number; this information along with the date may be included on each page of the specimen.

Where the typewriter has a carbon (single use) ribbon, remove the ribbon prior to typing a specimen if the ribbon is to be transcribed for questioned text.

An electronic typewriter collected as evidence may contain information in memory which may be lost if the unit is unplugged. Take a text sample first (contact the DPS QD section for instructions if you are not familiar with this procedure).

### Photocopiers

When the question arises as to whether a particular photocopying device was used to create a particular document, it is necessary to submit standards from that particular device. Do so by making copies with and without a blank sheet on the glass and with the lid closed. Be sure to mark the sequence of copies and collect the copier's serial number.



## **PACKAGING**

Documents may be packaged into an appropriately sized envelope. Be sure to place any identifying marks onto the evidence envelope prior to placing any document inside. Do not try to overfill the envelope. Protective covers and padding may be utilized when packaging.

If an attempt was made to destroy documents and the evidence consists of charred documents, they should be submitted in the container in which they were found because the documents may be crushed if handled further. Place the container in which the document was found and collected in into a sturdy box, with packing material to reduce movement of the charred document.



## **INTRODUCTION**

Computers are all too commonplace; nearly every home has a least one. When discovered at a crime scene, a computer should be considered as a possible piece of evidence; they are being used to store records of drug transactions, money laundering, child pornography, prostitution, and other crimes.

Because the technology being built into newer models of computers is changing rapidly, the seizure methods will also have to change with the technology. The information presented here is the most up-to-date as of this printing. Should this handbook be referenced outside of a date for its intended purpose, you are urged to contact the crime lab for technical assistance.

## **SAFETY CONSIDERATIONS**

Just because a computer is a device on which you would not normally find biological materials, do not attempt to handle one without some type of protective apparatus. Especially consider what type of criminal activities it is suspected of harboring. When it is suspected that materials for collection have been contaminated with biological fluids, it is extremely important that at a minimum, latex, nitrile, or other non-porous polymer gloves be worn when recovering and packaging this evidence. Personal protective equipment such as eye protection and lab coat are recommended in addition to the gloves.

All biological stains and reference samples should be treated as a biohazard (Universal Bloodborne Pathogen Precautions). These samples could potentially expose the handler to HIV, Hepatitis B and C, or other pathogens.

## **COLLECTION**

At times when a computer is used to store incriminating information, some users may devise methods to destroy the data if an unauthorized person attempts to use the system. For this reason, it is essential that precautions are taken to preserve the evidence when a computer is seized.

When a computer is suspected to be part of the evidence that is to be collected be sure to control access to it so as not to potentially eliminate evidence; a single key stroke could execute a program that erases information. Never turn a computer on if it happens to be off. Photograph any information that may be displayed on the screen. Photograph the back in order to record which components are attached to the computer and their point of attachment. Label all of the cables and the ports to which they correspond.

Once the condition of the computer as found has been documented, unplug it from the back of the computer, not the wall. Do not attempt to use the power switch as it may be rigged to damage the hard drive or other components when activated. If a laptop is powered "on", photograph the screen and unplug the power source. Push the power button down once to turn it off. Do not attempt a normal shutdown. Be sure to collect the laptop's own power adapter and supply cord at the time of the seizure of the computer. Often times the power adapter for a laptop is not interchangeable with other laptops.



## **Computer Forensic Evidence Collection**

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If it appears that all of the computers in the one location have been networked, call the laboratory in Austin and speak with one of the analysts in the Questioned Documents section that is familiar with forensic computer analysis.

When conducting a search of the crime scene in which a computer is involved, be sure to look for all computer hardware, software, disks, manuals, and other pieces of paper near the computer. Confiscate any and all of these types of items as they may contain information that proves valuable to the case.

### **PACKAGING**

Computers are sensitive to a variety of environmental conditions: temperature, physical shock, static electricity, and magnetic fields, just to name a few. Therefore the computer and peripheral devices should be protected from the extremes of these environmental conditions when transported.

A box containing antistatic packing material to cushion the computer is the preferred method of packaging. This could also include, if it's available, the original box and packaging material in which the computer was brought home from the store. A large antistatic bag into which the computer (the monitor is not needed back at the lab) can be placed is another option. Once the bag is properly sealed (either with tape or heat sealed) any attempts to access the computer will be evident.

If a container is not available, then prior to transport and submission, all ports of the CPU (USB, floppy drive, CD drive, etc.) must be sealed with tape so that attempts to access the computer will be evident.

When it's time to transport the computer and all of the computer-related items collected, from the crime scene, do not put them into the trunk of a police cruiser.

**The radio in the trunk produces a strong magnetic field which has the potential to destroy all of the evidence just collected, and during the summer in Texas the trunk can build up heat. Be sure to protect the computer from any and all environmental threats.**



**INTRODUCTION**

Forensic Firearm request is for the examination of any fired evidence and/or any firearm routine that exceeds the basic determination of its capability to discharge.

NIBIN request is for a firearm to be entered into NIBIN, and/or for a basic determination of the capability of a firearm to discharge.

Toolmarks request is for the examination of a tool and a surface suspected of having been contacted by the tool to determine the presence of unique microscopic characteristics on the surface imparted to it by the tool.

The following is a list of the items most commonly submitted for analyses:

- |                 |              |                 |
|-----------------|--------------|-----------------|
| Projectiles     | Pellets      | Victim clothing |
| Cartridge cases | Shot Shells  | Locks           |
| Cartridges      | Wads         |                 |
| Firearms        | Bolt cutters |                 |



Commonly submitted evidence items



## FIREARMS EXAMINATION

### SAFETY CONSIDERATIONS

To ensure the safe handling, storage, and submission of firearms, follow these safety steps:

- Keep the **firearm unloaded** at all times if possible. Package and submit an unloaded firearm.
- Keep the action closed.
- Insertion of a plastic zip tie through the magazine well and the ejection port will allow the action to close while ensuring that the weapon is not loaded.

When it is suspected that weapons being collected have been contaminated with biological fluids, it is extremely important that at a minimum, latex, nitrile, or other non-porous polymer gloves be worn when recovering and packaging this evidence. Personal protective equipment such as eye protection and lab coat are recommended in addition to the gloves.

All biological stains and reference samples should be treated as a biohazard (Universal Bloodborne Pathogen Precautions). These samples could potentially expose the handler to HIV, Hepatitis B and C, or other pathogens.

### COLLECTION

The collection process is relatively simple and not damaging to any firearms related item. Any damage that has occurred has normally been a result of firing, impact, or accidental. However, "damage" can occur when attempting to mark the items. While marking of the actual item can be accomplished without affecting any analysis, it is strongly recommended that the evidence NOT BE marked. "Damage" can occur in the form of altering or affecting any microscopic marks or patterns that may be present and useful for analyses and comparison.

### PACKAGING

The purpose of correctly packaging firearms is to protect the breechface and bore from damage. Proper packaging techniques include:

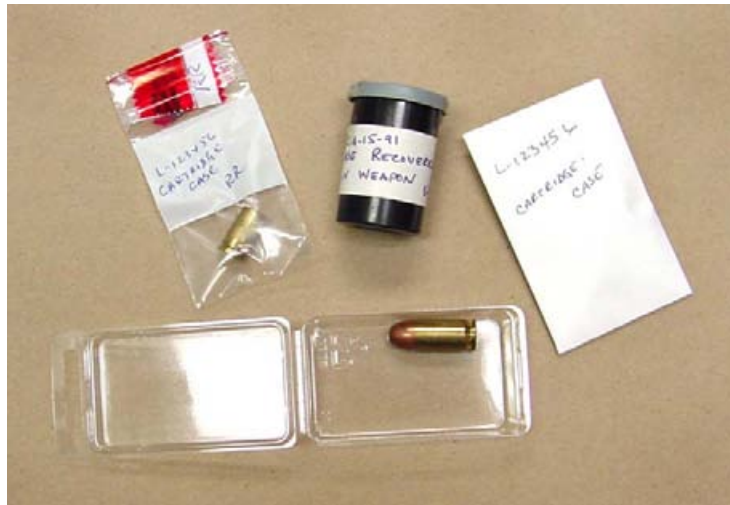
- Attach an evidence tag to trigger guard.
- Loaded magazines and unfired cartridges should be removed and secured with the associated firearm.
- Firearms should be placed in a box and secured with plastic zip ties to the bottom of the box. Boxes can be obtained through gun dealerships, various box companies, or law enforcement evidence handling suppliers such as Kinderprint or Sirchie.
- **DO NOT** place metal in the bore, breech or magazine well.
- Legibly mark the contents of each package



## Firearms and Toolmarks Evidence Collection

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- When practical, place all containers from a case in a common container. Seal the outer container with tamper-evident or filament tape so that the opening of the container would be evident.
- Outermost packaging must be properly sealed with date and initials.
- Affix appropriate BIOHAZARD or HAZARDOUS MATERIAL labels to the container
- Firearms recovered in water should be submitted in a container of the same water or should be immediately treated with a water displacing lubricant such as WD-40 or immersed in diesel fuel.



Examples of methods of packaging individual evidence items

If it is absolutely necessary to mark the evidence item, it **MUST** be marked in a safe area. **DO NOT** mark in the following locations:

- Bearing surface of projectiles
- Base of cartridge case
- Body of cartridge case





Note location of areas that cannot be marked

Containers can vary from empty film canisters, to coin envelopes, to plastic bags, etc. The important consideration is to protect the item to be examined from loss or contamination. Again, the container should be sealed, dated and initialed, with a description of the item contained within.

If mailing live ammunition, the outside of the container must be labeled ORM-D, CARTRIDGES SMALL ARMS. It is recommended that the local carrier be contacted to determine if they have additional regulations that must be followed. Ammunition and firearms must be shipped in accordance with U.S. Department of Transportation regulations. More information can be found at their website.

The following is a listing of items that might be submitted for examination with the results that may be determined.

Possible examinations (items)	Possible Determinations
Projectile	Caliber Weapon type Possible manufacturer Entry into NIBIN database (comparison to other shooting incidents)
Cartridge case	Caliber Weapon type Possible manufacturer Possible reload Entry into NIBIN database



Firearms and Toolmarks Evidence Collection

Possible examinations (items)	Possible Determinations
Multiple projectiles	Same as projectile – plus if fired from same firearm or multiple firearms
Multiple cartridge cases	Same as cartridge case – plus if fired from same firearm or multiple firearms
Fired projectile or Cartridge case and firearm	If fired from or in the submitted firearm
Shot pellets / shot wads	Size of shot pellets Gauge of shotgun Gauge of wad Possible pellet size contained in wad
Clothing (distance determination)	If gunshot residue (GSR) is present
Clothing and firearm	Approximate distance weapon was from clothing*
Clothing and shotgun	Approximate distance shotgun was from clothing*
Firearm	General condition and if mechanically functional Amount of pressure required to release hammer or firing pin Restoration of obliterated serial numbers Determination of illegal modifications Test firing to obtain test specimens for comparison Test fire for acquisition into the NIBIN database (comparison to other shooting incidents)

\*Offense report, autopsy report, properly scaled photos, and exact ammunition needed

**TOOLMARK EXAMINATION**

Manufacturing processes and use cause tools to bear unique microscopic characteristics. Under certain conditions these characteristics can be imparted to surfaces contacted by tools. Submitted tools should be able to produce the mark in question and have a suspect associated with them.



Firearms and Toolmarks Evidence Collection

If it is not possible to submit the evidence, a cast of the mark may be submitted. It is recommended, however, that the evidence mark be submitted whenever possible. Photographs locate toolmarks but are of no value for identification purposes.

Possible examinations (items)	Possible Determinations
Tool and evidence mark	Determine if submitted tool produced evidence mark, cut, etc.

Occasionally items are submitted that may exhibit multiple marks or cuts (doorframes, doors, cut wire, etc.). In this event, it is extremely important that the evidence marks in question are properly identified. This can be done in various ways. Marks on doors, etc. can be clearly photographed with the appropriate marks designated. Wires can be taped with the appropriate markings on the tapes. The important consideration is to make sure that the evidence mark in question is analyzed.



Evidence must be **clearly** identified as to what is the **actual** evidence mark.

**NIBIN**

The National Integrated Ballistic Information Network (NIBIN) uses Integrated Ballistics Identification System (IBIS) technology, developed and supported by the Bureau of Alcohol, Tobacco, Firearms, and Explosives (BATFE) to collect images of fired cartridge cases and/or projectiles and correlate them against stored images from Texas and other states. Both fired evidence and confiscated firearms are candidates for inclusion in this database and are used to correlate with past and future cases. See PEH-02-10, NIBIN Evidence Collection.

The objective of NIBIN is to be an additional tool for the analyst and the investigator to search a common database in the hopes of ascertaining the possibility that a suspect weapon has been used in multiple incidents.



**Firearms and Toolmarks Evidence Collection**

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IBIS units are located in the firearms section of the DPS labs in Austin, El Paso, Lubbock, McAllen, and Tyler.

**Please notify the laboratory if the firearm is returned or otherwise reintroduced to the public.**

**Evidence that is entered into the NIBIN database should be kept by the agencies for a minimum of four years. Matches must be made with actual evidence, and fired evidence may be in the system for a while before the firearm is recovered and entered.**



## INTRODUCTION

NIBIN stands for National Integrated Ballistic Information Network. It is a national database in which digital images of cartridge cases and bullets are entered. The purpose of NIBIN is to link unrelated firearm offenses and provide investigative leads for law enforcement. The NIBIN Mission Statement:

***Forge partnerships within the law enforcement community to more effectively produce investigative leads on cases involving firearms, through the use of state-of-the-art technology and investigative expertise.***

Firearms examiners and NIBIN technicians use the IBIS unit, which is a computer interfaced with a microscope equipped with a digital camera, to acquire, store, and compare digital images of cartridge cases. (Bullets are rarely entered at this time.) These cartridge cases have either been collected from a shooting scene or been retrieved from test fires of weapons that have been submitted to the crime laboratory for entry in the NIBIN database.

Using specialized software, the IBIS unit will compare the entries in the NIBIN database. The NIBIN technician will view the comparisons to see if there is a possible association between a new entry and the entries currently in the database. If the technician identifies a possible association, he will notify the firearms examiner to evaluate the physical evidence from the two cases to confirm or eliminate a match.

The benefits of having and expanding the NIBIN program include:

- Collecting and sharing forensic firearms data and imagery
- Rapid searching of local and regional firearms evidence files
- Overcoming jurisdictional and logistical constraints
- Linking unsolved shootings to other shootings or to confiscated firearms
- Using firearms evidence to link repeat offenders to crimes that can expedite identification and apprehension

**Evidence that is entered into the NIBIN database should be kept by the agencies for a minimum of four years. Matches must be made with actual evidence, and fired evidence may be in the system for a while before the firearm is recovered and entered.**

## SAFETY CONSIDERATIONS

To ensure the safe handling, storage, and submission of firearms, follow these safety steps:

- Keep the **firearm unloaded** at all times and if possible. Package and submit an unloaded firearm.
- Keep the **action closed**.



## **NIBIN Evidence Collection**

- Insertion of a plastic zip tie through the magazine well and the ejection port will allow the action to close while preventing the weapon from being loaded.

When it is suspected that weapons being collected have been contaminated with biological fluids, it is extremely important that at a minimum, latex, nitrile, or other non-porous polymer gloves be worn when recovering and packaging this evidence. Personal protective equipment such as eye protection and lab coat are recommended in addition to the gloves.

All biological stains and reference samples should be treated as a biohazard (Universal Bloodborne Pathogen Precautions). These samples could potentially expose the handler to HIV, Hepatitis B and C, or other pathogens.

### **COLLECTION**

#### **Firearms**

Submit all confiscated firearms. The submission of these firearms is only for entry in the NIBIN system, as opposed to firearms associated with a forensic case. Firearms submitted as part of a forensic case will also be entered in the NIBIN database, in addition to the forensic examinations. A report will be issued which reflects the NIBIN information.

**Please notify the laboratory if the firearm is returned or otherwise reintroduced to the public.**

- The types of firearms for NIBIN entry include:
  - Pistols
  - Shotguns
  - Rifles
  - Derringers and revolvers do not usually make viable entries for the database.

#### **Cartridge Cases**

Collect and submit all fired components (cartridge cases)

- It is crucial that all fired components from all crime scenes are submitted for entry. The cartridge cases may be submitted as **part** of a forensic case. In addition to the forensic examination completed on this evidence by a firearms examiner, the cartridge cases will be entered in the NIBIN database. A report will be issued which reflects the NIBIN information.
  - When evidence cartridge cases are entered in the database, they will correlate with previous and future evidence that has been entered.
  - If an association is not made at the present time, evidence may be entered in the future that will compare to the evidence entered from the current crime. The images remain in the database for future comparisons.



## **NIBIN Offenses**

Collect and submit evidence from the following types of offenses. Evidence from these offenses produce viable NIBIN only submissions:

- UCW
- felon in possession
- family violence
- found property
- questioned death or suicide
- theft of firearms
- deadly conduct
- assaults that do not involve forensic analysis

## **PACKAGING**

The purpose of correctly packaging firearms is to protect the breechface and bore from damage. Proper packaging techniques include:

- Attach an evidence tag to trigger guard.
- Loaded magazines and unfired cartridges should be removed and secured with the associated firearm.
- Firearms should be placed in a box and secured with plastic zip ties to the bottom of the box. Boxes can be obtained through gun dealerships, various box companies, or law enforcement evidence handling suppliers such as Kinderprint or Sirchie.
- **DO NOT** place metal in the bore, breech or magazine well.
- Legibly mark the contents of each package
- When practical, place all containers from a case in a common container. Seal the outer container with tamper-evident or filament tape so that the opening of the container would be evident.
- Outermost packaging must be properly sealed with date and initials.
- Affix appropriate BIOHAZARD or HAZARDOUS MATERIAL labels to the container
- Firearms recovered in water should be submitted in a container of the same water or should be immediately treated with a water displacing lubricant such as WD-40 or immersed in diesel fuel.



## SUBMISSION

Use the current Laboratory Submission Form (Lab-06) for the submission of evidence for NIBIN entry.

- Use the term **“NIBIN only”** under Exam Requested when submitting evidence only for entry in the NIBIN database that needs no forensic examination.

The standard examinations for a NIBIN only case are for the determination of:

- The suitability of the evidence for entry in the NIBIN database
- The entry of suitable evidence in the NIBIN database
- The capability of the firearm to discharge



IBIS data acquisition stations are located in DPS labs in Austin, El Paso, Lubbock, McAllen and Tyler.





## INTRODUCTION

This is a listing of resources available to conduct analyses that the Crime Laboratory Service is unable to provide. This listing may prove to be helpful. These resources have been used in the past by the Crime Laboratory Service and are provided for your information. This is **not** an all-inclusive list.

**State law prohibits us from recommending one resource over another.**

## ADDITIONAL TESTING RESOURCES

FBI Lab

DEA Lab

US Food & Drug Lab

Admissibility of evidence in Texas criminal courts is dependent on Texas DPS accreditation. A listing of forensic labs having received Texas DPS accreditation is available at [www.txdps.state.tx.us](http://www.txdps.state.tx.us).

Other laboratories which are accredited by a recognized accrediting body that may qualify as a laboratory for Texas DPS accreditation can be found at the following sites:

<http://www.ascl-d-lab.org>

<http://www.forquality.org>

<http://www.abft.org>

## ADDITIONAL RESOURCES

Below is a short list of forensic disciplines and laboratories capable of performing analyses in those disciplines; these disciplines have been exempt from the need to be accredited by Texas DPS.

### Anthropology

Laboratory for Forensic Anthropology and Human Identification - University of North Texas  
PO Box 5220  
Denton, TX 76203  
Dr. Harrell Gill-King

Phone: 940-565-4335  
E-mail: [Harrell@unt.edu](mailto:Harrell@unt.edu)

Department of Anthropology - Baylor University  
PO Box 97326  
Waco, TX 76798  
Dr. Susan Maki-Wallace

Phone: 817-755-1111 ext. 6226  
or 817-752-8868 (home)  
E-mail: [Susan\\_Maki\\_Wallace@Baylor.edu](mailto:Susan_Maki_Wallace@Baylor.edu)



**Additional Testing Resources**

**Blood Stain Pattern Interpretation**

TBI .LLC  
Oklahoma  
Tom Bevel

Phone: 405-447-4469  
Internet: [www.tombevel.com](http://www.tombevel.com)

Henderson Forensics  
Canyon, TX  
Bob Henderson

Phone: 806-655-3634  
E-mail: [hfornsic@arn.net](mailto:hfornsic@arn.net)

**Odontology**

University of Texas Health Science Center  
San Antonio, TX  
Dr. Marden Alder

Phone: 210-567-3333

Dr. Homer Campbell  
Albuquerque, NM

Phone: 505-277-3053

University of Texas Dental Branch  
Houston, TX  
Dr. Paul Stimson

Phone: 713-792-4000

**Product Liability**

Haag Engineering (failure and damage analysis)

Dallas, TX  
Houston, TX

Phone: 800-527-0168 or 972-247-6444  
Phone: 800-635-0116 or 281-313-9700  
Internet: [www.haagengineering.com](http://www.haagengineering.com)

BSI Inspectorate (product testing, commodity inspection)

Houston, TX  
Corpus Christi, TX

Phone: 713-944-2000  
Phone: 361-884-8805  
Internet: [www.inspectorate.com](http://www.inspectorate.com)



**SPECIFIC INSTRUCTIONS FOR COLLECTING AND PACKAGING EVIDENCE**

EVIDENCE	EXAMINATION NEEDED	AMOUNT NEEDED	PACKAGING
Automobiles and parts (not including lamps)	General examination for evidence such as blood, hair, soil, or other trace evidence	Entire vehicle if possible.	Vehicles should be kept protected until laboratory personnel can examine the vehicle. If vehicle is being transported to the laboratory, precaution should be taken to protect any evidence on the outside of the vehicle during transport.  Clean, well-packed boxes.
Biological Tissue	Origin and DNA analysis	All	Refer to Biological Screening/DNA Evidence Collection section.
Blood	Alcohol/drugs	10 mL	Use commercial blood collection tube kits. Blood must be taken by qualified medical personnel. <b>Do not use alcohol</b> as a sterilizing agent. Refrigerate sample if submission is delayed.
Blood and Bloodstains	DNA analysis		Refer to Biological Screening/DNA Evidence Collection section.
Bones	DNA analysis	All	Clean, well-packed box
Bullet Holes	Entrance/exit holes, muzzle distance	Entire garment or substance	Air-dry away from heat or sun. Handle as little as possible. Clean, well-packed box, so that bullet hole is protected from rubbing or shaking



<b>EVIDENCE</b>	<b>EXAMINATION NEEDED</b>	<b>AMOUNT NEEDED</b>	<b>PACKAGING</b>
Bullets and Cartridge cases	If fired from a particular weapon, presence of blood and foreign matter	All	Well-packed in cotton or other clean packing, not airtight
Cloth	Fiber/fabric comparison, physical fracture match, GSR, Paint, Biological Screening/DNA	All	Carefully packed in box, envelope, bag
Drugs	Chemical analysis to identify controlled substances	All	Original containers, plastic bags, heat sealed plastic bags, envelopes, boxes, or bottles
Fibers	Characterization and comparison	All, plus a large amount of known if comparison is to be made	Carefully package using folded paper. Place paper in well-sealed envelope or box.
Fingernail Deposits	Presence of blood, hair, tissue other trace evidence	All	Use clean nail clippers. Separate left and right hands. Gently use a separate toothpick (or similar item) for each finger. Place each in a separate, well-sealed container.
Firearms	Comparison with evidence bullets or cartridge cases, Serial number restoration, Trace Evidence, DNA, Latent Prints	Evidence projectiles and fragments, cartridge cases, weapon	Be sure all weapons are unloaded. Label and package all items individually.
Glass	Comparison, physical and chemical properties, physical matching, side of break	All	Clean cardboard boxes, well-packed and sealed to prevent sifting and contamination. Samples to be compared to be packaged separately.



<b>EVIDENCE</b>	<b>EXAMINATION NEEDED</b>	<b>AMOUNT NEEDED</b>	<b>PACKAGING</b>
GSR kits	Gunshot primer residue	Palm and back both hands	Commercial SEM-EDS kits only
Hair	Origin (human or other species), comparison	All of questioned. Known to be a minimum of 25 hairs from area in question.	Tape lifts placed on plastic sheeting, sealed in a envelope. Keep known and unknown separate.
Ink	Characterization, comparison	All	Original container. If on paper, package carefully in box.
Knives	Trace evidence, DNA, Latent Prints, Toolmarks	All	Packaged so as to prevent injury to handlers and to preserve materials present
Paint	Physical and chemical properties, comparison	Area collected should be one square inch. Need control samples from both suspect and victim cars at impact sites. Collect down to metal or wood surface. Collect flaked paint from scene. Hit and run - victim's clothing should be submitted.	Small, clean, non-metallic containers. Paint may be packaged in folded paper. It may then be placed in well-sealed envelope. Clothing should be placed in well-sealed paper bags and well-packaged box.
Paper	Comparison and characterization	All	Cardboard carton and well-sealed envelopes
Rope	Comparison and characterization	All	Clean cardboard box or bag



<b>EVIDENCE</b>	<b>EXAMINATION NEEDED</b>	<b>AMOUNT NEEDED</b>	<b>PACKAGING</b>
Semen stains	Presence of semen, DNA analysis	All	All articles to air-dry away from heat or sun. Pack carefully in paper bags or boxes.
Shoes/shoeprints	Comparison	All	Clean, well-cushioned containers (shoes, photos, casts)
Soil	Comparison	All of questioned sample. Known sample to be at least one teaspoon.	Clean bottles or boxes
Stains, other	Comparison and characterization	All	Same as bloodstains
Tools	Comparison, foreign material, serial number restoration	All	Cardboard carton, well-packed with protective covering on suspect area of tool
Urine	Alcohol, Drugs	10 mL	Use commercial urine collection test kits. Collection should be observed to maintain chain of custody. Refrigerate sample if submission is delayed.
Vehicle Lamps	Determine on or off at damage	All bulbs from the damaged area	Well-cushioned packaging in a box or other rigid container. Hand-deliver.
Vitreous Fluid	Alcohol, Drugs	1 mL	Use small container to minimize headspace. Refrigerate sample if submission is delayed.