

Quick Reference Guide for Laboratory Examinations

The following table describes general types of evidence you may want to submit, what Unit can examine your evidence, and the types of examinations that may be conducted. Evidence items are listed alphabetically. For additional assistance, please call 703-632-8360 or see info on [Evidence Submission](#).

| Evidence Type | Lab Unit | Examination |
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| Automobiles, motorcycles, construction equipment | Trace Evidence | Examination and comparisons of glass, hair, and/or fiber |
| | Latent Print Operations | Examination, development, comparison, and preservation of friction ridge prints |
| | DNA Casework | Examination for blood and semen; nuclear DNA analysis |
| | Chemistry | Paint analysis for make/model comparisons and/or determination; headlamp failure analysis |
| | Questioned Documents | Examination and comparison of impressions (shoe/tire); tire database search for brand/manufacturer |
| | Firearms/Toolmarks | Vehicle identification number recovery, examination, and verification; firearms trajectory reconstruction |
| Blood, bloodstains (see clothing) | DNA Casework | Analysis as a reference sample for nuclear and/or mitochondrial DNA. If the sample is from an unidentified individual or a close relative (parent, sibling) of a missing person, the profile can be entered into the National Missing Person DNA Database. For bloodstains on evidence, blood examinations followed by nuclear DNA examinations |
| | Chemistry | Analysis for drugs of abuse, poisons, and drugs used to facilitate sexual assault |
| | Latent Print Operations | Examination, development, comparison, and preservation of friction ridge prints |
| Bombs, explosives, or other improvised explosive devices (IEDs), incendiary devices (arson) | TEDAC Explosives | Examination of post blast evidence, safety check on unexploded devices, examination for bulk explosives or explosive residues; Call for shipping instructions and appropriate packaging materials. |
| Bombs, explosives, or other improvised explosive devices (IEDs), incendiary devices (arson) | Trace Evidence, TEDAC | Examination and comparison of hairs, fibers, soil, glass, fabric damage, and other trace evidence |

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| | Latent Print Operations, TEDAC | Examination, development, comparison, and preservation of friction ridge prints |
| | DNA Casework, TEDAC | Examination of nuclear DNA; examination of mitochondrial DNA on hairs found |
| | Firearms/Toolmarks, TEDAC | Examination and comparison of toolmarks |
| Bones | Trace Evidence | Examination to determine human or non-human origins; age, sex, ancestry, and stature estimation; trauma analysis; personal identification (comparison with medical or dental records); facial approximation |
| | DNA Casework | Examination of nuclear and/or mitochondrial DNA, which includes nuclear and/or mitochondrial DNA analysis of remains of unidentified individual to enter into the National Missing Person DNA Database. The DNA profile can be compared to a reference sample or relatives to help identify the missing person. |
| | Firearms/Toolmarks | Examination of toolmarks |
| Bottles, cans | Latent Print Operations | Examination, development, comparisons, and preservation of friction ridge prints |
| | DNA Casework | Analysis of sample from rim and backwash for nuclear DNA |
| | Trace Evidence | Fracture analysis (direction and type of force events); comparison to knowns for possible common origin. |
| Buccal (cheek) swabs | DNA Casework | Analysis as a reference sample for nuclear and/or mitochondrial DNA. If the sample is from an unidentified individual or a close relative (parent, sibling) of a missing person, the DNA profile can be entered into the National Missing Person DNA Database. |
| Building materials | Trace Evidence | Class determination (insulation, cement, brick, etc.); comparison to knowns for possible common origin |
| Building materials | Latent Print Operations | Examination, development, comparison, and preservation of friction ridge prints |

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| | Firearms/Toolmarks | Examination and comparison; comparison with National Integrated Ballistics Information Network (NIBN) |
| Cartridges, cartridge cases | Latent Print Operations | Examination, development, comparison, and preservation of friction ridge prints |
| | Firearms/Toolmarks | Examination and comparison; comparison with National Integrated Ballistics Information Network (NIBN) |
| Chemicals | Chemistry | Analysis of any residue, stain, liquid, or powder, to include pepper sprays, lubricants, foams, inks, sealants, caulks, drugs, poisons, or bank dye |
| | Explosives | Bulk analysis and screening of explosive or incendiary material |
| Cigarettes | DNA Casework | Analysis from the filter end for nuclear DNA |
| | Latent Print Operations | Examination, development, comparison, and preservation of friction ridge prints |
| Clothing | Explosives | Examination of residues of explosives |
| | Trace Evidence | Examination for and comparison of hairs, fibers, soil, glass, fabric damage, and other trace evidence |
| | DNA Casework | Examination of blood and/or semen or wearer samples (collar, hat band, gloves, ski mask), followed by nuclear DNA analysis |
| | Latent Print Operations | Examination, development, comparison, and preservation of friction ridge prints |
| | Questioned Documents | Examination and comparison of impressions (shoe/tire) |
| | Chemistry | Examination of stains for bank dye, drug residue, metal fillings/debris, paint, unknown powers, pepper spray |
| | Firearms/Toolmarks | Determination of victim muzzle-to-target distance |
| Coded Communications | Cryptanalysis & Racketeering Records | Analyze communications and other documents for codes, ciphers, and/or concealments. Materials may be emailed to codebreakers@ic.fbi.gov for immediate analysis. |
| Cordage | Trace Evidence | Examination for physical matching; comparison to knowns for possible common origin |

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| Documents | Cryptanalysis & Racketeering Records | Analyze coded communications and/or records of illegal businesses, including drug distribution, illegal gambling, loansharking, alien smuggling, and prostitution. |
| Documents, including gambling, drugs, prostitution, and racketeering record; photographs; checks; threats; contracts | Questioned Documents | Examination and comparison, including shredded, charred, or water-soaked documents; rubberstamps; seals; indented writing; watermarks; alterations and obliterations; and inks, analysis of handwriting, handprinting and typewriting |
| | Cryptanalysis & Racketeering Records | Analysis for business, distribution, or other organization records |
| | Latent Print Operations | Examination, development, comparison, and preservation of friction ridge prints |
| Drug distribution records | Cryptanalysis & Racketeering Records | Analyze notebooks, ledgers, and other records to identify the specific drug(s), amounts distributed, participants, money involved, and other relevant information. |
| Encrypted documents | Cryptanalysis & Racketeering Records | Analysis of encoded and enciphered documents used by terrorists, foreign intelligence agents, violent criminals, street and prison gangs, and organized crime groups; encrypted documents may be faxed or emailed for immediate decryption. |
| | Latent Print Operations | Examination, development, comparison, and preservation of friction ridge prints |
| Envelopes | Chemistry | Analysis for residue, such as white powders in threat letters, after screening has been coordinated through HERTU |
| | Questioned Documents | Examination and comparison, including handwriting, handprinting, and typewriting analysis; printing/graphic, etc. |
| | Latent Print Operations | Examination, development, comparison, and preservation of friction ridge prints |
| | DNA Casework | Analysis of the flap and stamp for nuclear DNA |
| Fabric Softener Sheets | Questioned Documents Unit | Examination and comparison with a box of fabric softener sheets |

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| Fibers | Trace Evidence | Examination for fiber type (natural, synthetic); comparison to knowns for possible common origin |
| Gambling machines | Cryptanalysis & Racketeering Records | Analyze machines to determine if they are gambling devices |
| Gambling records | Cryptanalysis & Racketeering Records | Analyze notebooks, ledgers, and other records to identify the type(s) of gambling, participants, money involved, and other relevant information. |
| Glass | Trace Evidence | Fracture analysis (direction and type of force, sequence of force events); comparison to knowns for possible common origin |
| | Questioned Documents | Examination of larger pieces for shoe print |
| | Latent Print Operations | Examination, development, comparison, and preservation of friction ridge prints |
| Hairs | Trace Evidence | Examination to determine human or non-human origins, body area, racial characteristics, artificial treatment, damage, characteristics of decomposition, method of removal; comparison to knowns for possible common origin |
| | DNA Casework | Examination of nuclear DNA from tissue adhering to the hair when determined by the Trace Evidence Unit to be suitable. Examination of mitochondrial DNA [For mitochondrial DNA analysis, must have a reference sample from the victim, subject, or a maternal relative of the victim or subject in order for examination to be performed on the hair(s).] |
| | Chemistry | Analysis for drugs or poisons |
| Hazardous material evidence, including environmental crime cases and spills | Chemical Biological Radiological Nuclear Sciences | Contact CBRNSU at 703-632-7772 for instructions. |
| Impressions – photograph of, casts of, or gels of | Trace Evidence | Examination and comparison of fabric impressions |
| | Questioned Documents | Examinations and comparisons (shoe/tire) |
| | Firearms/Toolmarks | Examination and comparison of toolmarks |
| Lifts – shoes | Questioned Documents | Examination and comparison |

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| Loansharking records | Cryptanalysis & Racketeering Records | Analyze notebooks, ledgers, and other records to identify the type(s) of loans, borrowers, interest rates, money involved, and other relevant information. |
| Lock – keys | Latent Print Operations | Examination, development, comparison, and preservation of friction ridge prints |
| | Firearms/Toolmarks | Examination and comparison of toolmarks; examination for bypass; decoding |
| Metals | Latent Print Operations | Examination, development, comparison, and preservation of friction ridge prints |
| | Chemistry | Analysis for fractures/failure cause; Analysis of metals against specifications in suspected frauds; Analysis of timers, watches, and light bulbs; Inter-comparisons of metal objects. |
| | Firearms/Toolmarks | Examination and comparison of toolmarks |
| Office machines (fax, copier, etc), including machine ribbon (typewriters) | Latent Print Operations | Examination, development, comparison, and preservation of friction ridge prints |
| | Questioned Documents | Examination, comparison, and classification |
| Paint | Chemistry | Analysis and comparison of paint on tools, automobiles, marine vessels, and architectural paint; can also perform make/model/year searches for automobile in hit-and-runs |
| Photographs | Latent Print Operations | Examination, development, comparison, and preservation of friction ridge prints |
| Photographs, surveillance video | Firearms/Toolmarks | Analysis of images for possible determination of firearm make and model |
| Plastic (polyethylene) bags | Latent Print Operations | Examination, development, comparison, and preservation of friction ridge prints |
| | Questioned Documents | Examination and comparisons |
| Prostitution records | Cryptanalysis & Racketeering Records | Analyze notebooks, ledgers, and other records to identify the participants, money involved, and other relevant information. |
| Racketeering records | Cryptanalysis & Racketeering Records | Analysis of records from illegal businesses, including drug records, sports and horse bookmaking, internet gambling, numbers or lottery, loan-sharking, and prostitution |

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| Racketeering records | Latent Print Operations | Examination, development, comparison, and preservation of friction ridge prints |
| Saliva – see buckle swabs | | |
| Semen stains – see clothing | | |
| Sexual assault kits | Trace Evidence | Examination of fingernail scrapings and combings for hairs and fibers |
| | DNA Casework | Examination for semen, then nuclear DNA; examination of fingernail scrapings for nuclear DNA |
| | Chemistry | Analysis of urine and/or blood by toxicology screenings for drugs used to facilitate sexual assaults |
| Shoes | Trace Evidence | Examination for trace evidence such as hairs, fibers, glass, soil, or other material |
| | Questioned Documents | Examination and comparison; shoe database search for brand, manufacturer |
| | Latent Print Operations | Examination, development, comparison, and preservation of friction ridge prints |
| Shredded paper | Latent Print Operations | Examination, development, comparison, and preservation of friction ridge prints |
| | Questioned Documents | Reconstruction, examination and comparison |
| Silencer/suppressor | Latent Print Operations | Examination, development, comparison, and preservation of friction ridge prints |
| | Firearms/Toolmarks | Examination and sound-meter testing |
| Smuggling/trafficking records | Cryptanalysis & Racketeering Records | Analyze notebooks, ledgers, and other records to identify type(s) of cargo, participants, origin/destination points, money involved, and other relevant information. |
| Soil | Trace Evidence | Determination of provenance (soil source); comparison to knowns for possible common origins |
| Tape/adhesives | Trace Evidence | Examination of adhered hairs and fibers; examination of fiber-type tapes |
| | Questioned Documents | Matching of end fractures of paper and film tapes |
| | Latent Print Operations | Examination, development, comparison, and preservation of friction ridge prints |
| | Chemistry | Analysis and comparisons of duct, electrical, or packaging tapes |

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| Tattoos and Graffiti | Cryptanalysis & Racketeering Records | Compare images of graffiti, tattoos, or other symbols to proprietary and open sources to determine if the image has been encountered before (offered for investigative assistance only; no testimony support is provided). |
| Teeth | Trace Evidence | Examination to determine source (human vs. non-human), age, ancestry; trauma analysis; personal identification and comparison with dental records |
| | DNA Casework | Examination of nuclear and/or mitochondrial DNA, which includes nuclear and/or mitochondrial DNA analysis of teeth from a missing person or unidentified individual to enter into the National Missing Person DNA Database. The DNA profile can be compared to a reference sample or relatives to help identify the missing persons |
| Tires | Questioned Documents | Examination and comparison of impression; tire database search for brand/manufacturer |
| | Latent Print Operations | Examination, development, comparison, and preservation of friction ridge prints |
| Tissue, human | DNA Casework | Examination of nuclear and/or mitochondrial DNA, which includes nuclear and/or mitochondrial DNA analysis of tissue from an unidentified individual to enter into the National Missing Person DNA Database. The DNA profile can be compared to a reference sample or relatives to help identify the missing person |
| | Chemistry | Analysis for drugs or poisons |
| Tools (hand or power), toolmark casts | Trace Evidence | Examination for trace evidence such as hairs, fibers, glass, soil, building materials, or other material |
| | Latent Print Operations | Examination, development, comparison, and preservation of friction ridge prints |
| | Chemistry | Comparison of painted surfaces or transferred paint |
| | Firearms/Toolmarks | Examination and comparison |
| Urine | Chemistry | Analysis for drug abuse, poisons, and drugs used to facilitate sexual assault |
| Weapons (firearms, knives, melee type, etc.) | Trace Evidence | Examination for trace evidence such as fibers, glass, soil, or other material; examination for blowback material on firearms |

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| Weapons (firearms, knives, melee type, etc.) | Chemistry | Examination to look for drug residue; comparison of broken fragment to blades (trace metal analysis) |
| | Latent Print Operations | Examination, development, comparison, and preservation of friction ridge prints |
| | DNA Casework | Examination of blood |
| | Firearms/Toolmarks | Examination and comparison of firearms, ammunition, ammunition components (bullets, cartridge cases); examination of toolmarks; fracture matching; serial number restoration; gunshot residue distance determination; NIBIN entry and comparison |
| WMDs, including chemical, biological, radiological, and nuclear | Scientific Response and Analysis | Contact SRAU directly at 703-632-7919 for instructions |
| Wood | Latent Print Operations | Examination, development, comparison, and preservation of friction ridge prints |
| | Firearms/Toolmarks | Examination and comparison of toolmarks |