

**TYPE AND EXTENT OF EXAMINATIONS OFFERED BY
THE DSS LABORATORIES**

The Division of Scientific Services Laboratories offer forensic analysis of materials in the general areas of Criminalistics, Identification, DNA, Computer Crimes, Toxicology and Controlled Substance. Commonly employed procedures are listed below. Unique evidence or situations may require the utilization of procedures not listed in these tables.

Criminalistics Section

AREA	ROUTINE TESTING	SUPPLEMENTAL
Forensic Biology	Identification of Body Fluids 1. Blood-screen & confirm 2. Semen screen and confirmation 3. Saliva-amylase 4. Urine-creatinine	1. Tissues (id only) 2. Fecal urobilinogen (id only) 3. Whole blood sample preservation
Chemistry	Arson 1. Debris examination (macroscopic) 2. GC 3. GC-MS	Soils: SEM/EDAX
	Explosives 1. Spot tests for low explosive residues 2. HPLC 3. CE 4. SEM 5. GC (ANFO) 6. GC/MS (high explosives) 7. Microscopic	
	Identification of Unknown Substances 1. pH 2. Solubility 3. Anion/Cation spot tests 4. GC/MS 5. HPLC 6. CE 7. SEM/EDAX 8. Microscopic	
Instrumentation	GSR Detection (Kits & Clothing) 1. Macroscopic 2. SEM 3. ICP 4. Microscopic 5. Distance Determination	

Trace	Hairs	Analysis Conducted: Identification Species Race Body Area Chemical Treatment Means of Removal Presence of Tissue-suitable for DNA Identification of other features Comparison to a known sample
	Fibers	Analysis Conducted: Identification / Comparison
	Cordage/Ropes/Threads	Analysis Conducted: Construction/Physical properties Composition / Comparison
	Fabric	Analysis Conducted: Construction characteristics Damage (cut vs. torn) Comparisons
	Tape	Analysis Conducted: Construction Characteristics Composition / Comparisons Damage (cut vs. torn)
	Headlamp Examinations	Analysis Conducted: Examination of the Assembly
	Physical Match	Analysis Conducted: Determination of Physical Match
	Powders	Analysis Conducted: Identification / Comparisons
	Paint	Analysis Conducted: Physical Structure Composition / Comparison Database results: Year, Make, Model of Vehicle
	Non-Routine Evidence	Analysis Conducted: Examinations are based on the evidence submitted

IDENTIFICATION SECTIONS

AREA	ROUTINE TESTING	METHODOLOGIES
Finger Prints	Latent / Other Prints 1. Develop friction ridge detail 2. Patent prints 3. Plastic prints (Impressions)	1. Physical 2. Chemical 3. Alternate light 4. Photography
	Examination/Evaluation Prints	1. Macroscopic 2. Stereoscopic 3. Photographic 4. AFIS /IAFIS
	AFIS Submissions 1. Data base search 2. Confirmation	1. Photography
Imprints	Footwear & Tire Tracks 1. Latent prints 2. Patent prints 3. Impressions	1. Macroscopic 2. Stereoscopic 3. Photographic 4. Image Enhancement
	Pattern Identification 1. Class characteristics 2. Individual characteristics	Reference Search 1. Databases 2. FBI referral
	Bloody Print Enhancement (Latent prints & imprints)	1. bper 2. Ninhydrin 3. Amido Black 4. LCV 5. Other, as appropriate
Questioned Documents	Handwriting/Printing 1. Extended test 2. Signature 3. Alterations 4. Erasures 5. Disguise 6. Writing instrument/ink	1. VSC 2. ESDA 3. Macroscopic 4. Microscopic
	Typing/Print Process 1. Typewriter Identification 2. Copy Process Identification	1. Reference file: Interpol 2. Product Information 3. Macroscopic 4. Microscopic 5. Measurement
	Copy Process 1. Type Determination	1. Toner Examination

Firearms	I.D. of Weapon 1. Information 2. Drawing 3. Image Interpretation 4. Serial Number Restoration	1. Reference Library 2. Photography
	I.D. Cartridge / Bullet 1. Caliber & Manufacturer 2. NIBIN Comparison 3. Known to Question 4. Microscopic 5. Macroscopic	1. NIBIN 2. Reference Library 3. Photography
	I.D. Toolmark 1. Type of tool 2. Known to Question 3. Macroscopic 4. Microscopic	
Multimedia & Image enhancement	Video/Digital Forensic Video/Audio/Image analysis and enhancement	1. Image enhancement 2. Video Analysis 3. Audio Enhancement 4. Duplication 5. Feature Analysis 6. Scene Support
Forensic Photography ⊕	1. Film processing 2. Print processing 3. Evidence documentation 4. Prepare court exhibits	1. Crime scene photography 2. Aerial photography 3. PIO 4. Reports and Records Archival/Processing

⊕ These areas constitute only technical assistance utilizing photographic methodologies. The Forensic Science Laboratory provides digital and standard photographic support services.

DNA

AREA	ROUTINE TESTING	OTHER METHODOLOGIES
DNA Human Quantitation	Real Time PCR	
DNA-PCR	1. STRs 2. Y-STRs	
Mitochondrial DNA	Sequencing	

ELECTRONIC EVIDENCE / COMPUTER CRIMES:

AREA	METHODOLOGIES
Data Analysis	Forensic Software/ Hardware
Data Restoration	Forensic Software/ Hardware
Imaging / Acquisition	Forensic Software/ Hardware
DVR Data Recovery	Forensic Software/ Hardware
Cell Phone Data Recovery	Forensic Software/ Hardware
Hard Drive Sterilization	Forensic Software/ Hardware

TOXICOLOGY:

AREA	ROUTINE TESTING	METHODOLOGIES
Driving Under the Influence		
	Alcohol/Volatiles blood/urine Drug Identification: blood/urine	GC Headspace Screening analysis: EMIT Confirmatory analysis: GC/MS Extraction Techniques: Solid Phase Liquid/liquid
Drug facilitated sexual assaults	Alcohol/Volatiles blood/urine/emesis/liquids Drugs Identification blood/urine/emesis/liquids	Screening analysis: GC Headspace Confirmatory analysis: EMIT GC/MS Extraction Techniques: Solid Phase Liquid/liquid

CONTROLLED SUBSTANCES:

AREA	ROUTINE TESTING	METHODOLOGIES
Identification of Drugs	Sample Matrices: Plant material Powders Rock-like material Tablets/ Pharmaceutical preparations Food Paraphernalia Liquids	Screening analysis: Microscopic Confirmatory Technique: GC/MS Screening analysis: Solubility in Water Confirmatory Technique: GC/MS Screening analysis: Solubility in Water Confirmatory Technique: GC/MS FTIR Confirmatory Technique: GC/MS Confirmatory Technique: GC/MS HPLC Confirmatory Technique: GC/MS Confirmatory Technique: GC/MS
Poisonings	food/bodily fluids/liquids/ general paraphernalia	Extraction Techniques: Direct solvent extraction Basic extraction Acid Extraction Confirmatory Techniques: GC/MS HPLC
Drug Diversions	Quantitation/Identification of pharmaceutical preparations	Confirmatory Techniques: GC/MS HPLC