

Law Enforcement, Criminal and Civil Justice Subcommittee

Chairman Chris Wooten

The Honorable William H. Bailey
The Honorable Kambrell H. Garvin
The Honorable Leon Douglas "Doug" Gilliam
The Honorable Jefferey E. "Jeff" Johnson

AGENDA

Wednesday, October 29, 2025 10:30 a.m. Room 516 – Blatt Building

- I. Approval of Minutes
- II. Presentation by the Legislative Audit Council
- III. Discussion of the study of the South Carolina Law Enforcement Division
- IV. Adjournment



SOUTH CAROLINA HOUSE OF REPRESENTATIVES GOVERNMENT EFFICIENCY & LEGISLATIVE OVERSIGHT COMMITTEE

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Administrative Coordinator

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Charlie LaRosa Research Analyst Riley McCullough Research Analyst

Post Office Box 11867 Columbia, South Carolina 29211 Telephone: (803) 212-6810 Fax: (803) 212-6811 Room 228 Blatt Building

MEETING MINUTES

Wednesday, September 17, 2025 10:30 a.m. Room 516 – Blatt Building

Archived Video Available

I. Pursuant to House Legislative Oversight Committee Rule 6.7, South Carolina ETV was allowed access for streaming the meeting. You may access an archived video of this meeting by visiting the South Carolina General Assembly's website (http://www.scstatehouse.gov) and clicking on Committee Postings and Reports, then under House Standing Committees click on Legislative Oversight. Then, click on Video Archives for a listing of archived videos for the Committee.

Attendance

The Law Enforcement and Criminal and Civil Justice Subcommittee meeting was called to order by Chair Chris Wooten on Wednesday, September 17, 2025, in Room 516 of the Blatt Building. Representative Kambrell H. Garvin, Representative Leon D. "Doug" Gilliam, and Representative William H. Bailey were present for all or a portion of the meeting. Representative Jeffrey E. "Jeff" Johnson was not in attendance.

Minutes

I. House Rule 4.5 requires standing committees to prepare and make available to the public the minutes of committee meetings, but the minutes do not have to be verbatim accounts of meetings.

Approval of Minutes

I. Representative Gilliam made a motion to approve the meeting minutes from prior meeting. A roll call vote was held, and the motion passed.

Rep. Garvin's motion to approve meeting minutes.	Yea	Nay	Not Voting		
Rep. Wooten	✓				
Rep. Johnson			✓		
Rep. Garvin			✓		
Rep. Gilliam	✓				
Rep. Bailey	✓				

Discussion of the South Carolina Law Enforcement Division

- I. Prior to beginning today's testimony, Chair Wooten asks if there are any agency representatives who may address the subcommittee today or at future meetings who have not been placed under oath. Captain Aaron Rawl, SLED Technical Operations Unit; Captain Brandon Landrum, SLED Protective Services Emergency Management Unit; Lieutenant Sigrid Phinney, SeaHawk Operations Unit; Lieutenant Jacob Pridgen, SLED Bloodhound and Tracking Team Unit; and Lieutenant Michael Wheeler, SLED SWAT Unit, were all sworn.
- II. Captain Aaron Rawl then begins his presentation to the subcommittee and discusses the following topics:
 - 1. SLED Aviation.

Throughout his presentation to the subcommittee, Members ask Captain Rawl questions and he responds.

- III. Lieutenant Aubrey P. Richardson begins his presentation to the subcommittee and discusses the following topics:
 - 1. Bomb Squad and Counterterrorism Unit.

Throughout her presentation to the subcommittee, Members ask Lieutenant Richardson questions and she responds.

- IV. Lieutenant Sigrid Phinney begins her presentation to the subcommittee and discusses the following topics:
 - 1. SeaHawk Interagency Operations Center.

Throughout his presentation to the subcommittee, Members ask Lieutenant Phinney questions and she responds.

- V. Lieutenant Michael Wheeler begins his presentation to the subcommittee and discusses the following topics:
 - 1. Special Weapons and Tactics and WMD Team.

Throughout his presentation to the subcommittee, Members ask Lieutenant Wheeler questions and he responds.

- VI. Lieutenant Jacob Pridgen begins his presentation to the subcommittee and discusses the following topics:
 - 1. SLED Bloodhound Tracking and Canine Team.

Throughout his presentation to the subcommittee, Members ask Lieutenant Pridgen questions and he responds.

- VII. Captain Brandon Landrum and Lieutenant Kathryn Powell begin their presentation to the subcommittee and discuss the following topics:
 - 1. Protective Services Emergency Management Unit.

Throughout his presentation to the subcommittee, Members ask Captain Landrum and Lieutenant Powell questions and they respond.

Adjournment

I. There being no further business, the meeting is adjourned.

STATE LAW ENFORCEMENT DIVISION (SLED)



ABOUT

On May 14, 1935, the General Assembly created the South Carolina Law Enforcement Division to enforce the state liquor law, assist any law enforcement officer in the detection of crime, along with the enforcement of the state's criminal laws. Funding was provided for 21 new officers to the existing three members of the State Constabulary.

MISSION

The primary mission of SLED is to provide quality manpower and technical assistance to all law enforcement agencies in South Carolina to ensure that every citizen in the State of South Carolina is afforded an equal level of law enforcement service. SLED is also tasked with protecting and preserving the safety, integrity, and security of South Carolina's citizens and all statewide public resources, infrastructure, and data. SLED also conducts timely, thorough, and professional criminal investigations on behalf of the State of South Carolina along with many other statutory roles and responsibilities.

VISION

SLED seeks to be the premier law enforcement agency in the State of South Carolina so as to ensure every citizen in South Carolina is provided an equal level of law enforcement services.

SUCCESSES

- Experienced staff with a wide range of talents capable of handling a variety of tasks and projects.
- Collaboration and coordination with regional and federal counterparts to provide the highest quality of service.
- Personnel's dedication, ability and involvement in the law enforcement profession as subject matter experts in their own individual areas of expertise.
- Commitment to maintaining accreditation to ensure law enforcement partners have access to the best forensic analysis possible.

DEPARTMENTS

- Alcohol, Narcotics & Vice Services
- Criminal Justice Information Services
- South Carolina Information and Intelligence Center
- Counterterrorism
- Forensic Services
- Homeland Security
- Investigative Services
- Regulatory Services

EMPLOYEES

758

Authorized FTEs

FUNDING

\$148,137,395

Total Funds

CHALLENGES

- Personnel turnover
- Succession planning issues
- Reliance on others and outside factors causing a delay in case progress.
- High volume of plant material testing cases has caused a time delay in receiving results.
- Continued use of an outdated case management system.



2025 House Oversight Meeting



Dr. C. Todd Hughey, Major / Director SLED Forensic Services Laboratory

Pursuant to §23-3-15, 1976 South Carolina Code of Laws, as amended, SLED is given exclusive statewide jurisdiction to operate a comprehensive forensic laboratory on behalf of the State.





Physical Address: 4700 Broad River Road Columbia, SC 29210



SLED Forensic Lab Website

Forensic Services Laboratory - Mission Statement

To provide the South Carolina criminal justice system with a full-service forensic laboratory staffed with persons of the highest possible ethical and educational standards who examine forensic evidence and report findings of the highest quality possible.

Major C. Todd Hughey, Ph.D.

Education:

B.S. Chemistry, Wofford College

Ph.D. Pharmacology, University of South Carolina

Post-Doctoral Fellow, Duke University Medical Center

Graduate: FBI National Academy, Session #258 (2014)









Work History: 29 Year SLED Career

Senior Criminalist - Toxicology Department (1996)

Lieutenant - Drug Analysis Department (2001)

Captain - Impression Evidence Departments / Grants (2007)

Major/Lab Director (2008 - Present)

Committees and Honors:

JP Strom Award, SCCJA Class #343 (1997)

Strom Thurmond Award, Excellence in Law Enforcement (2017)

Board Member, North Carolina Forensic Science Advisory Board (2020 -)

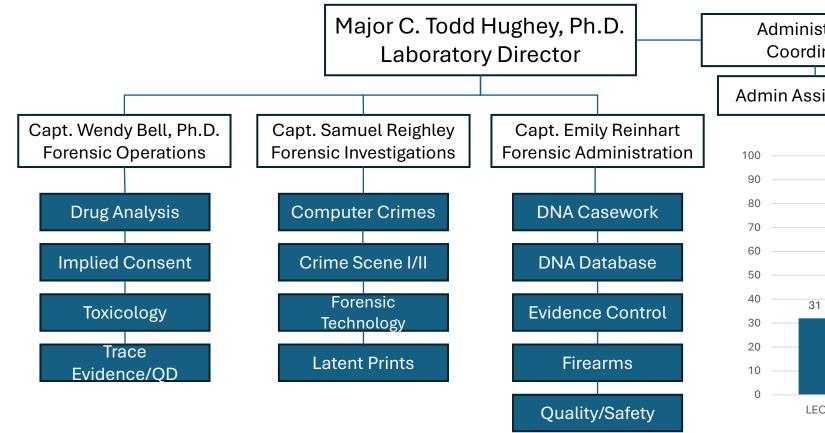
Member: American Society of Crime Lab Directors (ASCLD)

ASCLD Advocacy Committee (2014 - Present)



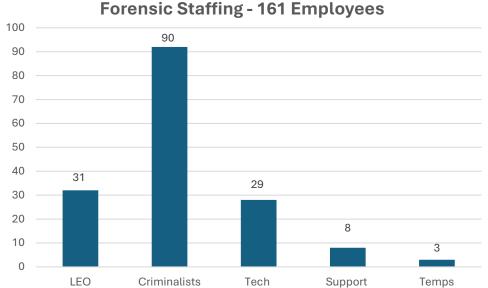


FORENSIC SERVICES ORGANIZATIONAL CHART August 2025



Administrative Coordinator

Admin Assistant X 3



SOUTH CAROLINA LAW ENFORCEMENT DIVISION

Command Staff: Duties and Responsibilities

Captain Reighley	Captain Bell	Captain Reinhart	
(Investigative Support)	(Forensic Operations)	(Forensic Administration)	
Computer Crimes	Toxicology	DNA Casework	
Crime Scene	Drug Chemistry	DNA Database	
LP/Photo	Implied Consent	Firearms	
Forensic IT / LIMS	Trace/QD	Quality/Safety/Evidence	
Federal Grants Administrator	Legislative/Judicial Matters	Major Case Coordinator	
Forensic Metrics/Stats	Training Coordinator	Accreditation Manager	
Security / Card Access	Research Liaison / Academic Advisor	Community Relations / Interns	
*Special Projects-New Lab Construction / Security	*Special Projects- Opioid Emergency Response Team (OERT)	*Special Projects-Sexual Assault Kit Tracking Implementation (H.3309)	



121 Years of Combined Forensic Experience

HISTORY: 78 YEARS OF SERVICE

- 1947 SCHP IDENTIFICATION BUREAU TRANSFERRED TO SLED
- 1947 MILLARD CATE HIRED 1ST FIREARMS/TOOLMARK/FINGERPRINT EXAMINER
- 1951 James "Jim" Wilson Hired 1st SLED CHEMIST
- 1947 -1989 SLED LAB HOUSED IN HQ'S BASEMENT
- 1990 2022 SLED LAB OCCUPIED A 62,000 SF FACILITY FOR 32 YEARS
- 2018 GENERAL ASSEMBLY ALLOCATED FUNDS (\$54M) FOR NEW LABORATORY
- DECEMBER 2022 SLED COMPLETED MOVE TO A NEW 118,000 SF FACILITY
- NEW LABORATORY WAS DEDICATED ON APRIL 27, 2023







SOUTH CAROLINA LAW ENFORCEMENT DIVISION

NEW FORENSIC SERVICES LABORATORY (2022)



















Quality and Accreditation: TOP PRIORITY

Quality - Implementing planned and systematic activities (policies and procedures) to provide confidence that a service is meeting specified requirements.

<u>Accreditation</u> - The formal recognition, by an independent third party, that the laboratory meets a set of defined international standards. (ISO 17025)

Laboratory Accreditation History:







- 1994 First accredited by ASCLD/LAB (Legacy)
- Reaccredited in 1999, 2004, and 2009
- 2014 ASCLD/LAB-International (ISO)
- Reaccredited by ANAB in 2019 and 2023
- Surveillance Document Review (October 2023)
- Surveillance Assessment (October 2024)
- Surveillance Document Review (October 2025)
- Full Reassessment (October 2026)



SLED Forensic Services

30+ Years of Continuous Accreditation

(1994 – Present)

Who Is Our Accrediting Body?



- ANAB
 - American National Standards Institute (ANSI) National Accreditation Board
 - A non-governmental organization that provides accreditation services to public and private sector organizations
- ISO (International Organization for Standardization)
 - A non-governmental international standard setting body composed of representatives from various national standards organizations
 - Developed over 19,500 International Standards covering almost every industry (technology, food safety, agriculture, forensics, etc.)



Quality Assurance: Covers every aspect of laboratory work that can affect the quality of the

results reported.

- Written procedures
- Testimony monitoring
- Training
- Case reviews
- Continuing education
- Proficiency testing

- Method validation
- Corrective action
- Equipment maintenance
- Preventive action
- Evidence handling
- Audits





Forensic Staffing Classifications:

- Top Management (Director / 3 Captains)
- Supervisors (14 Lieutenants/Dept. Supervisors)
- Criminalists (Analysts / Examiners Class III)
- Law Enforcement (Agents, Sr. Agents Class I)
- Forensic Technicians (Civilian Employees)
- Admin / Support Staff (Civilian Employees)

Dedication: April 27, 2023



Career Path: Criminalist





- 2021 Crim 1 Salary \$39,729
- 2024 Crim 1 Salary
 \$59,079 (49% increase)
- 2021 Criminalist career path ended at 10 years
- 2024 Criminalist career path has 2 additional step increases extending it to 16 years

Career Path: Law Enforcement Officer (LEO)



Class Code-State Title	Band	Band Min	Band Max	Internal Title	LEO Salary	Starting Salary	LEO - Minimum Education / Experience
JC20 - Law Enforcement Officer II	5	\$37,860.00	\$70,054.00	Special Agent I	\$58,000	\$58,000	Bachelor's degree, or experience in a specialized field or requirement of a specific skill, license, and/or certification, as authorized by Chief.
JC30 - Law Enforcement Officer III	6	\$45,530.00	\$84,241.00	Special Agent II	15%	\$66,700	Three years as a Special Agent I, or Bachelor's degree and three years law enforcement experience, or specialized field/skill/license/certification as authorized by Chief.
				Special Agent III	10%	\$73,370	Three years as a Special Agent II, or Bachelor's degree and six years law enforcement experience, or specialized field/skill/license/certification as authorized by Chief.
JC40 - Law Enforcement Officer IV	7	\$54,974.00	\$101,712.00	Sr Special Agent	Minimum or 5%, whichever is greater	\$78,602	Four years as a Special Agent III, or Bachelor's degree and ten years law enforcement experience, or specialized field/skill/license/certification as authorized by Chief.
				Lieutenant		\$94,322	Promotion

- 2021 Agent 1 salary \$36,759
- 2024 Agent 1 Salary \$58,000 (58% increase)
- Agent Career path ends at 10 years of experience

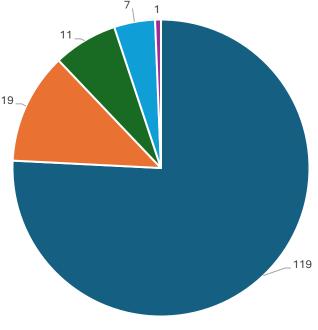


Staffing Changes: FY23-24

A total of 38 Staffing Events occurred:

- 19 New Hires
- 11 Separations (Resignations/Terminations/Death)
- 7 Transfers (Internal/External)
- 1 Retired
- Approximately 1 in 4 positions (24.2%) impacted





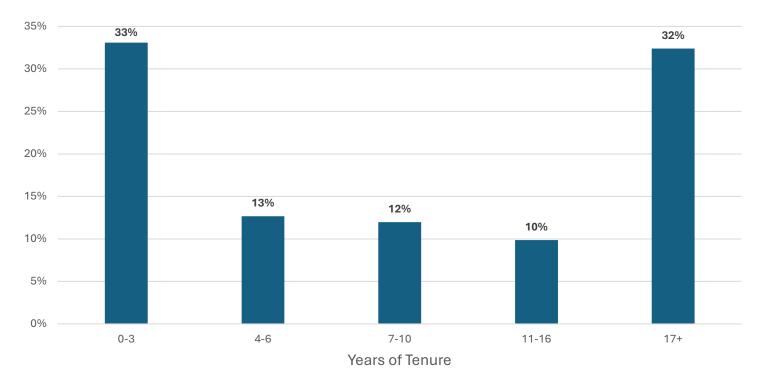
■ New Hires
■ Separations
■ Transfers
■ Retired





Staffing: Tenure of Criminalists/LEO's/Technicians

Crim/LEO/Technician Staffing Tenure

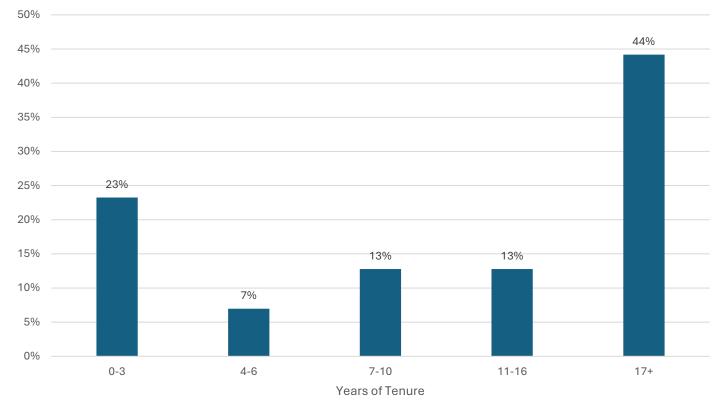


- 33% of staff < 3 years experience
- 58% of staff < 10 years experience
- 32 % of staff > 17 years experience
- Primed for a significant turnover in experience



Staffing: Tenure of Criminalists

Criminalist Tenure



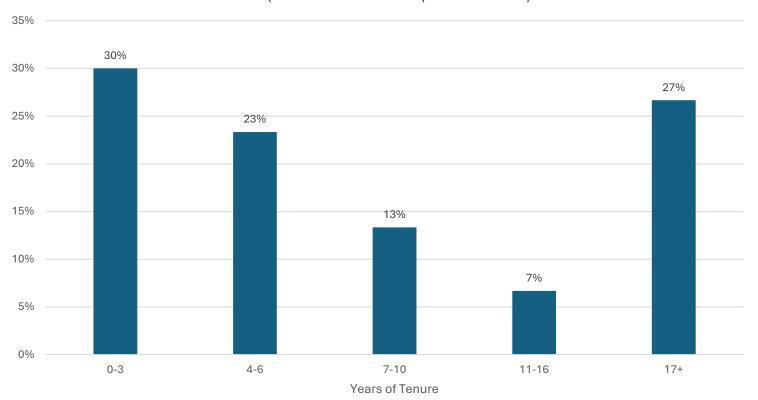
- 23% of staff < 3 years experience
- 43% of staff < 10 years experience
- 44 % of staff > 17 years experience
- Primed for a significant turnover in experience as staff retire.





Staffing: Tenure of Law Enforcement Officers (LEO's)





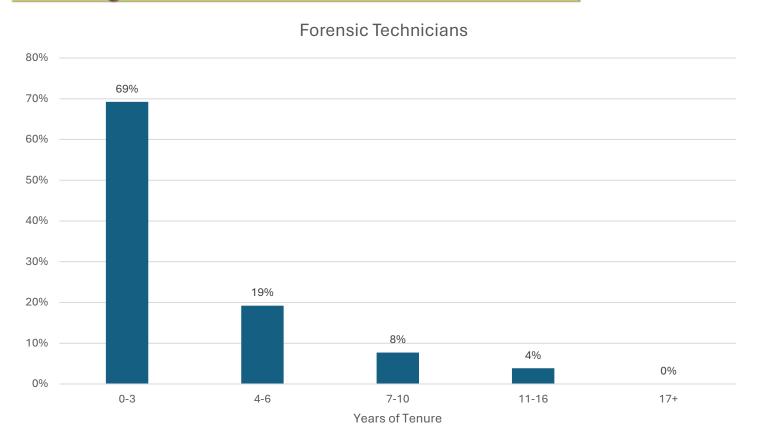
- 30% of staff < 3 years experience
- 66% of staff < 10 years experience



SOUTH CAROLINA LAW ENFORCEMENT DIVISION



Staffing: Tenure of Forensic Technicians



- 69% of staff < 3 years experience
- 96% of staff < 10 years experience
- Turn over associated with advancement opportunities with better compensation



SLED SLED 1947 1947

Project FORESIGHT: Business-guided self-evaluation of forensic science laboratories across the globe.

West Virginia University, JOHN CHAMBERS COLLEGE OF BUSINESS AND ECONOMICS

- Participants local, regional, state, and national forensic laboratories. [211 Participating Laboratories]
- Standardized definitions for metrics to evaluate work processes.
- Links financial information to work tasks and functions.
- Allows laboratory managers to assess resource allocations, efficiencies, and values of services.

Table 1: Characteristics of Submitting Laboratories

Characteristics of Submitting Laboratories	
Jurisdiction	
National	8
Regional	35
State	62
Metro	61
Regional/Metro*	45
*Regional lab with a city exceeding 100K population	
Total Accredited (ISO/IEC 17025:2017 or ANAB)	208
non-accredited	3
TOTAL SUBMISSIONS	211
International/Domestic	
U.S.	187
Non-U.S.	24

https://business.wvu.edu/research-outreach/forensic-business-studies/foresight

FORESIGHT - Cost per Case by Investigative Area

Area of Investigation	SLED	25th percentile	Median	75th Percentile
Blood Alcohol*	\$153	\$135	\$222	\$341
Crime Scene Investigation	\$8,300	\$1,652	\$3,993	\$7,925
Digital Evidence *	\$3,134	\$1,733	\$3,253	\$5,457
DNACasework*	\$1,655	\$1,267	\$1,641	\$2,394
DNADatabase	\$154	\$54	\$100	\$156
Document Examination *	\$3,035	\$3,793	\$5,649	\$7,874
Drugs - Controlled Substances *	\$113	\$272	\$399	\$504
Explosives *	\$6,702	\$3,405	\$8,826	\$16,919
Fingerprints *	\$1,173	\$800	\$1,193	\$1,731
Fingerprints Database (including IAFIS) *	\$229	\$209	\$713	\$908
Fire Analysis *	\$1,413	\$1,489	\$2,917	\$4,564
Firearms and Ballistics *	\$1,001	\$1,448	\$2,242	\$3,424
Firearms Database (including NIBIN) *	\$31	\$82	\$192	\$415
Gun Shot Residue (GSR) *	\$2,421	\$1,892	\$3,062	\$4,443
Toxicology ante-mortem (excluding BAC)*	\$776	\$571	\$720	\$975
Toxicology post-mortem (excluding BAC)*	\$557	\$560	\$811	\$1,093
Trace Evidence *	\$5,448	\$4,338	\$6,029	\$8,675



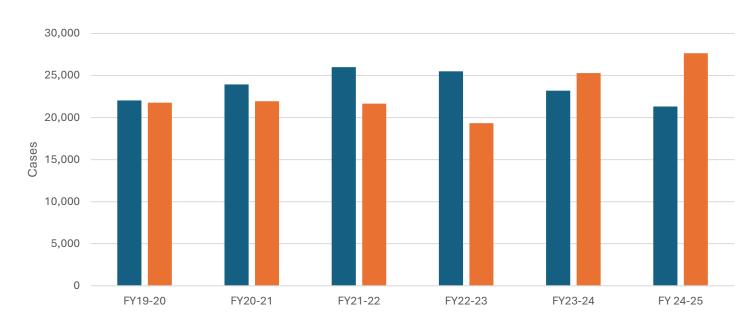


^{*} Below Median Cost

CASE METRICS: LAB TOTALS

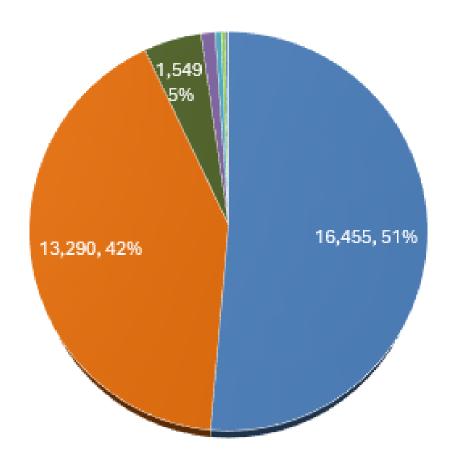


Cases Received vs. Cases Completed by FY



- 43% Increase in Completed cases from FY23 to FY25.
- Backlog builds each year when cases received surpasses cases completed.
- Address Backlog: +FTE's, Training Competed, Process Improvements, etc.
- FY23-fY25: Starting to see increases in efficiency related to new facility and staffing.

Forensic Backlogs: July 2025



- Drug Analysis
- DNA Casework
- Firearms
- Computer Crimes
- Latent Prints
- Trace
- Toxicology
- Crime Scene
- QD
- DNA Database

- Following Three (3)
 Departments Account for 98%
 of Current Backlog
 - Drug Chemistry (51%)
 - DNA Casework (42%)
 - Firearms (5%)



Forensic Backlogs: Actions Taken In DNA



- New Laboratory Improved Efficiencies and Space Allocation for Casework and Database personnel. (No Expansion Space in Old Laboratory)
- In FY21-22 Forensics granted 22 New FTE's 15 FTE's (68%) allotted to DNA Casework (13) and Database (2) to address backlogs and SAK's.
- FY24-25 Restructured DNA Casework Department:
 - Additional DNA Supervisor
 - Dedicated Team of Analysts to Handle Violent Crime Cases
 - Dedicated Team of Analysts to Handle SAK/Non-Violent Cases

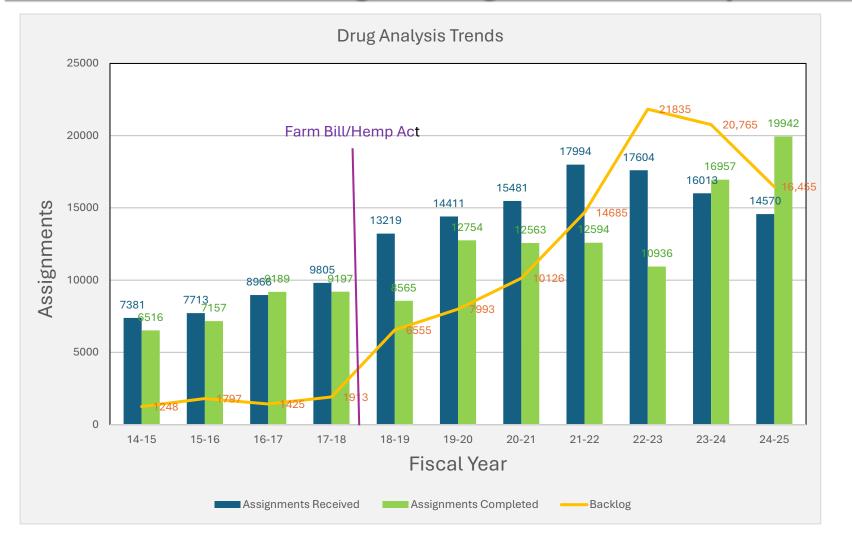
DNA Casework

58% Increase in staffing in 4 years!

(19 to 30 staff)

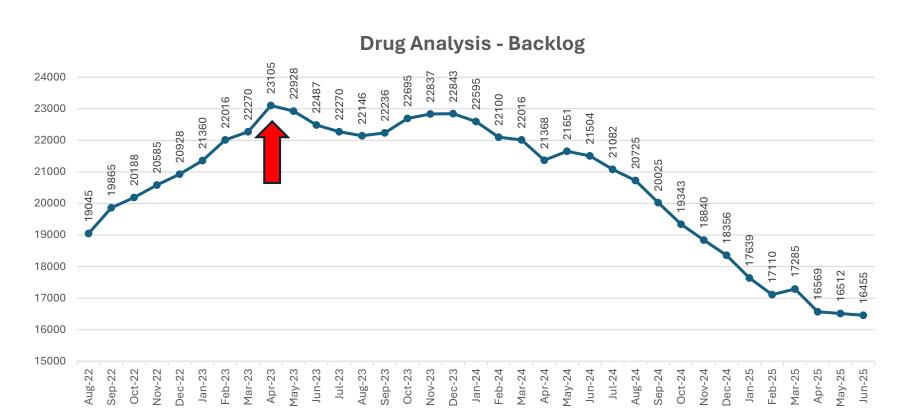
Forensic Backlogs: Legislative Impact/Response





- Increase staffing 4 new chemists
- Time to develop qualitative methods for THC analysis (new)
- Time to secure funding for additional instrumentation
- 86.5% Avg increase in case assignments after passage of Bill
- FY23-24 & FY 24-25: Starting to see backlog reductions

BACKLOG TRENDS: IMPROVEMENTS





- April 2023 Peak
- Since April 2023:
 - Avg Cases Submitted: 1,274
 - Avg Cases Completed: 1,531
 - 28% Reduction in Backlog Over 26 Months
 - 8 to 12 Analysts: 50% increase in staffing

BACKLOG TRENDS: IMPROVEMENTS



- DNA Database: Backlog of Convicted Offender/Arrestee Samples
 Decreased from 682 on July 1, 2023 to 7 on July 1, 2025 = 98.9%
 Reduction (2 analysts and 3 Technicians Completed Training in 2024)
- TRACE EVIDENCE AND GUNSHOT RESIDUE KIT (GSR) ANALYSIS. FROM 2022 TO 2025, THE NUMBER OF UNANALYZED KITS WAS REDUCED FROM 3,986 TO ONLY 106.
 THIS REPRESENTS A 97% REDUCTION IN BACKLOGGED GSR KITS.
- Toxicology has maintained a Fast Turnaround and low backlog Ranking in the top 25th Percentile nationally for Foresight participating laboratories. Only Forensic Toxicology lab in south Carolina providing free Ante/Postmortem services.

Federal Grants: Awarded \$3.8M Since 2020

		Total Funds Awarded \$3,		\$3,819,088.00
FY24 Justice Assistance Grant (JAG)	10/1/2023	9/30/2024	Closed	\$149,872.00
FY23 Justice Assistance Grant (JAG)	10/1/2022	9/30/2023	Closed	\$33,300.00
FY23 Justice Assistance Grant (JAG)	10/1/2022	9/30/2023	Closed	\$109,800.00
FY23 Capacity Enhancement and Backlog Reduction Program (CEBR)	10/1/2023	9/30/2025	Open	\$1,136,367.00
FY22 Capacity Enhancement and Backlog Reduction Program (CEBR)	10/1/2022	9/30/2025	Open	\$780,301.00
FY24 Paul Coverdell Forensic Science Grant	7/1/2024	6/30/2025	Closed	\$41,263.00
FY21 Paul Coverdell Forensic Science Grant	7/1/2022	6/30/2023	Closed	\$160,451.00
FY21 Paul Coverdell Forensic Science Grant	7/1/2022	6/30/2023	Closed	\$41,920.00
FY21 Justice Assistance Grant (JAG)	10/1/2021	9/30/2022	Closed	\$103,500.00
FY21 Justice Assistance Grant (JAG)	7/1/2022	6/30/2022	Closed	\$28,929.00
FY21 Capacity Enhancement and Backlog Reduction Program (CEBR)	10/1/2021	9/30/2024	Closed	\$754,309.00
FY20 Paul Coverdell Forensic Science Grant	1/1/2021	12/31/2021	Closed	\$37,000.00
FY20 Paul Coverdell Forensic Science Grant	1/1/2021	12/31/2021	Closed	\$21,827.00
FY20 Paul Coverdell Forensic Science Grant	1/1/2021	12/31/2021	Closed	\$38,109.00
FY20 Justice Assistance Grant (JAG)	10/1/2020	9/30/2021	Closed	\$61,740.00
FY20 Justice Assistance Grant (JAG)	10/1/2020	9/30/2021	Closed	\$320,400.00
GRANT NAME	START DATE	GRANT CLOSING DATE		AMOUNT AWARDED









National DNA Index System (NDIS) / Combined DNA Index System (CODIS)

- Blood or Buccal (cheek) samples for qualifying offenses
- Convicted Offender Samples
- Arrestee Samples (S.C. Code Ann. 523-3-620)
 - A felony offense or an offense punishable by a sentence of five years or more;
 - · Eavesdropping, peeping or stalking, any of which are committed in this state
- Forensic DNA Samples

NDIS 2024:

> 17M Offender profiles,

5.4M Arrestee profiles,

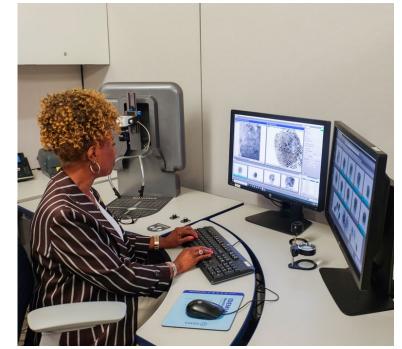
1.3M Forensic Profiles



DATABASES: Key to Providing Forensic Leads

Integrated Automated Fingerprint Identification System (IAFIS) - Managed by FBI

- Automated search capabilities, latent searching, electronic image storage
- >70M (fingerprints and criminal histories of subjects)
- Biometric database of collected fingerprint records and compares them to identify known or unknown fingerprints



DATABASES: Key to Providing Forensic Leads



National Integrated Ballistics Information Network (NIBIN) - BATFE/SLED

- Searchable national database of fired cartridge cases designed to link crimes to a common firearm and develop investigative leads
- SLED started an Entry By Appointment (EBA) program in 2014
- The SLED NIBIN Program is consistently ranked in the Top 10 NIBIN sites across the nation for entries and the Top 15 for NIBIN Leads reported. Recently, SLED was ranked Number 2 in the nation for number of entries.



SLED FORENSIC SERVICES



More than just Casework: Major Projects & Accomplishments

- 2018-2022: New Laboratory Project (Design/Construction/Relocation/Dedication).
- H.3309: Statewide Sexual Assault Kit Tracking System (Track-Kit[™]) Implemented (May 2020 February 2024).
- NIBIN Entry by Appointment (EBA) Rapid Portal for Firearms to be entered into National IBIS
 Database. EBA part of new laboratory design. Recognized as one of the top performing IBIS Entry
 Programs in the Nation.
- 2022-2023: Implementation of Rapid DNA technology ThermoFisher RapidHIT™ ID validated and put into service.

SLED FORENSIC SERVICES



More than just Casework: Major Projects & Accomplishments

- Working with SC Coroners to develop direct an interface between iLAB and MDILog (case management software used by Coroners and Medical Examiners. Goal: Reduce data input time and transcription errors from multiple systems.
- Latent Prints has implemented an "Electronic Submission" program which allows local agencies to submit latent images online accounting for 21% of department casework.
- Toxicology is validating a Time of Flight Mass Spectrometer (TOF-MS) allowing for thousands of compounds to be screened in biological samples. (Cost: \$355K)
- Implied Consent (Breath Testing) overseeing the replacement of 151 Breath Testing Instruments in 105 test sites located in South Carolina. (Cost: \$1.8M)

DNA CASEWORK



Staffing

Criminalists:	22
Technicians:	8

Department Metrics FY 2024-25

Assignments Received	Assignments Completed	Department Backlog at end of FY24-25
2,868	2,195	13,290

- Perform scientific analyses and examinations on biological evidence such as blood, semen, and saliva to locate and identify probative biological samples for comparison purposes.
- Analyze case types including, but not limited to, the following: homicides/violent crimes (robbery, assault, etc.), sexual assaults (adults and minors), relationship testing (criminal parentage and missing persons/body identifications) and burglary/property crimes.
- The DNA Casework Department prioritizes the analysis of Homicide and Sexual Assault cases using a team approach and Direct-to-DNA methodology.

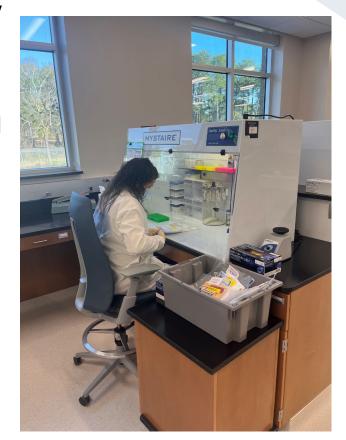
DNA CASEWORK

SLED SLED 1947 1947

Achievements/Process Improvements:

- Phased implementation of the S.C. Sexual Assault Kit Tracking System (Track-Kit[™]) started in December 2023 and was completed in February 2024 to comply with H.3309.
- The contract was awarded to Bode Technology for outsourcing the analysis of sexual assault kits beginning in Q4 of 2024.
- The plans to restructure the DNA Casework Department were finalized enabling improved management and assignment of cases.

- Two Forensic Technicians and ten Criminalists were in training in some capacity during FY23-24. Trainees are unable to accept casework leaving senior staff members to serve as primary trainers, perform casework, and meet other departmental demands.
- DNA Casework staff received an increased number of cases to prioritize and complete in limited time for scheduled court dates.



DNA DATABASE



Staffing

Criminalists:	7
Technicians:	5

Department Metrics FY 2024-25

Samples Received	Profiles Entered into CODIS	Department Backlog at end of FY24-25
14,816	14,097	7

- Manage the Combined DNA Index System (CODIS) used to provide investigative leads to law enforcement for unsolved cases. CODIS is a repository where law enforcement agencies can share DNA information to:
 - Identify suspects in unsolved cases (an offender or an arrestee hit)
 - Link unsolved crimes (forensic hit)
- Identify remains or missing persons through CODIS Database searches.
- Process DNA expungement requests in accordance with S.C. Code Ann. §23- 3-660

DNA DATABASE

SLED 1947 1947

Achievements/Process Improvements:

- DNA Database nearly eliminated the backlog of database samples awaiting DNA analysis.
- Two analysts and two technicians completed training contributing to the backlog reduction.
- The RapidHit ID protocol, validation and competencies were completed for use on reference samples.
- In-person DNA collection training was provided to agencies tasked with the collection of database samples from qualifying offenders to help improve the quality of submissions.

- Database sample submission quality and 50% of samples with missing information affected the acceptability of database samples.
- Database continues to prepare for the use of Rapid DNA on forensic samples and methods to disseminate information to participating law enforcement agencies.



SOUTH CAROLINA LAW ENFORCEMENT DIVISION

FIREARMS & TOOLMARKS



Staffing

Criminalists:	9
Technicians:	3

Department Metrics FY 2024-25

Assignments Received	Assignments Completed	Department Backlog at end of FY24-25
1,162	1,365	1,549

- Examines firearms to test operability and compliance with various statutory regulations (ex. capability for full auto fire, barrel length, and/or overall length), and examines and microscopically compares fired ammunition components.
- Examines tools and microscopically compares tool marks and performs serial number restoration.
- Destroys firearms, knives, metal tools, etc. for various agencies in South Carolina.
- Operates the Integrated Ballistics Identification System (IBIS) database and the Entry by Appointment (EBA) program designed to increase the efficiency and throughput of the IBIS system.

FIREARMS & TOOLMARKS



Achievements/Process Improvements:

IBIS EBA appointments - over 150 more than previous year.

- 6160 IBIS EBA cases entered (FY 24-25)
- 8890 IBIS EBA items entered (FY 24-25)

IBIS Total stats

- 6385 Cases entered
- 9489 Items entered
- 2691 Leads reported

National Rankings

The SLED NIBIN Program is consistently ranked in the Top 10 NIBIN sites
across the nation for entries and the Top 15 for NIBIN Leads
reported. Recently, SLED was ranked Number 2 in the nation for number
of entries.

- The complexity of Firearms cases increased including the number of items per case, cross-related cases, and additional submissions.
- Revising training program to decrease the length of time for trainees to contribute to case production is a priority.



EVIDENCE CONTROL



Staffing

Program Coordinator:	1
Technicians:	6

Department Metrics FY 2024-25

Cases Received	Cases Returned	Agencies Served
20,388	25,439	292

- Assists law enforcement officers throughout the state, both in person and via the iLab internet pre-log system, with the submission of physical evidence involved in criminal investigations
- Manages daily operations of the Evidence Room
- Distributes evidence collection kits to local law enforcement



EVIDENCE CONTROL

Achievements/Process Improvements:

• New employees have trained efficiently and routinely maintain the submission backlog at 0%.



- <u>Staff retention</u>: In the last five years, eleven staff members have separated from the department due to promotion, reassignment, retirement, or other agency separation. The average experience of current staff members is 2.5 years.
- Bulk Evidence Submissions for Marijuana: The storage of large evidence submissions for Marijuana is a challenge for the department. These submissions often arrive to the laboratory in large boxes and/or rolling suitcases. Due to the varying sizes of these items, organized storage is a challenge within spaces equipped with additional security for drugs.





QUALITY AND SAFETY



Staffing

Criminalists:	3
Safety Manager:	1 (Vacant)

Department Metrics FY 2024-25

Proficiency Tests Administered	Forensic Testimonies Documented	Requests Completed for Laboratory Documentation
211	204	584

- Maintains Accreditation Compliance and conformance to established criteria for ANAB and CALEA
- Coordinates internal audits to include Laboratory Safety Inspection, Workplace Audit, and the annual Internal Quality Audit
- Coordinates FOIA/Discovery requests for information
- Monitors overall laboratory safety protocols, proficiency testing requirements, and testimony evaluations

QUALITY AND SAFETY

Achievements/Process Improvements:

- Continuation of ANAB Accreditation received in November 2023.
- FBI QAS compliance for DNA Casework and DNA Database obtained in April 2024.
- Successful completion of 2 CALEA Annual Audits of Evidentiary Property and 2 Semi-Annual Evidence Inspections.
- Partnered with the SC Commission on Prosecution Coordination in a New Prosecutor Boot Camp for forensic trainees to gain testimony experience.

Challenges Faced:

• The volume of incoming FOIA and Discovery requests received, and the limited advance notice given to produce documents for trial is a recurring challenge.







TOXICOLOGY



Staffing

Criminalists:	14
Technicians:	4

Department Metrics FY 2024-25

Assignments Received	Assignments Completed	Department Backlog at end of FY24-25
4,036	4,273	53

- Responsible for the analysis of biological fluids and tissues for the presence or absence of alcohol, drugs, and poisons.
- The department primarily handles postmortem and driving under the influence (DUI) investigations. In addition, the department also handles criminal sexual conduct cases, moonshine cases, investigations into potential poisonings and provides emergency analytical services in life-or-death situations. Rapid preliminary analysis is provided in cases involving child fatalities or officer involved shootings.
- Additionally, Toxicologists interpret their findings in respect to impairment or toxicity of the compounds
 detected.

TOXICOLOGY



Achievements/Process Improvements:

- Department maintains a low backlog and fast turnaround time, among top 25 % of all full-service Forensic Toxicology labs in the country per FORESIGHT report.
- The Liquid Chromatograph/Quadrupole Time of Flight Mass Spectrometer (LC-QTOF) is in the final stages of validation and will significantly improve turnaround time by eliminating the need for preliminary drug screens and unknown GCMS/LCMSMS screening.

- The continued development of novel psychoactive substances (NPS) continues to be a challenge. New drugs
 are continuously being introduced into the market and require constant method development to allow for
 proper identification and interpretation.
- The department was tasked with developing and validating a method for verifying potency and stability of Pentobarbital supplies for the SC Department of Corrections.
- Loss of key staff, particularly Technician turnover, has required analysts to spend significantly more time on tasks that were previously handled by technicians.

TRACE EVIDENCE/QD



Staffing

Criminalists:	7
Technicians:	1

Department Metrics FY 2024-25

	Assignments Received	Assignments Completed	Department Backlog at end of FY24-25
TRACE	562	632	106
QD	75	77	12

- The Trace Evidence Department performs explosives analysis, fiber analysis, fire debris analysis, glass analysis, gunshot primer residue (GSR) analysis, paint analysis, and general physical and chemical analysis on a variety of trace evidence.
- The Questioned Documents Department conducts scientific examinations on evidence requiring a determination of authorship and authenticity.

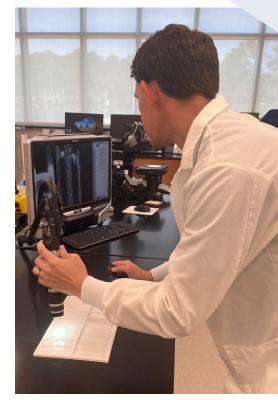
TRACE EVIDENCE/QD

Achievements/Process Improvements:

- The Trace Evidence department has been able to reduce the GSR backlog significantly due to an evaluation of how Gun Shot Primer Residue (GSR) is analyzed. This included: an evaluation of the software used for analysis, an evaluation of the GSR process itself, and an evaluation of the personal performing GSR analysis.
- Changes made after this evaluation, coupled with the GSR customer notice that was issued in 2022 limiting the acceptance of victim GSR kits, has reduced the GSR backlog from 3828 kits in June of 2021 to 247 GSR kits at the end of FY 2023-24.
- The department is now analyzing current cases with the future goal of completing GSR cases within 60 days of submission.

- Upcoming future risks are the dissolution of the Questioned Documents (QD) Department after September of 2025 for handwriting analysis. The Trace Department is being trained to take on ink and indented impression analysis in preparation for the retirement of senior QD analysts.
- The Trace department is also at risk for several senior analysts retiring in the next several years. This will handicap the department as the training program is at least 6 years long.





DRUG ANALYSIS



Staffing

Criminalists: 13

Department Metrics FY 2024-25

Assignments Received	Assignments Completed	Department Backlog at end of FY24-25
14,570	19,942	16,455

- The Drug Analysis Department is responsible for the analysis of evidentiary items to establish the presence, identity and quantity of controlled substances.
- Chemical spot tests, published reference materials, and/or microscopic analyses may be used as indicative or screening tests. Confirmatory testing is performed by Gas Chromatograph/Mass Spectrometer (GC/MS) and Fourier Transform Infrared Spectrometer (FTIR).
- The Drug Analysis Department conducts quantitative analysis of tetrahydrocannabinol (THC) in plant material and THC products to distinguish between marijuana and industrial hemp and the legality of the product.

DRUG ANALYSIS



Achievements/Process Improvements:

- During FY 2023-24 the department hired three analysts, two of which have completed training. The addition of these analysts has increased the department output and for the first time in several years, the department is starting to see a reduction in backlog.
- The department eliminated the waitlist for large boxed submissions by focus on completing these cases and assigning a dedicated analyst for large plant material submissions.

- Edibles containing Tetrahydrocannabinol (THC) isomers/analogs (store seizures) continue to create additional requests for the laboratory. The laboratory also received multiple expedited testing requests for these substances so that law enforcement can seize illegal retail products.
- The changing drug trends cause the department to constantly stay abreast of ordering standards for these novel substances. Some substances are so new to the market that reliable standards are not readily available.



IMPLIED CONSENT



Staffing

Criminalists:	4
Agents:	1

Department Metrics FY 2024-25

DataMaster	DataMaster	Datamaster
DMT On-Site	DMT Linearity DMT Total	
Inspections	Verifications	Attempted Tests
959	231	21,388

- Promulgate policies and procedures related to the Implied Consent program relating to the breath alcohol testing and video recording devices at breath testing sites.
- Inspect, maintain, and repair of breath alcohol testing equipment and videotaping systems
- Responsible for selection & certification of breath alcohol testing equipment and breath testing sites

IMPLIED CONSENT

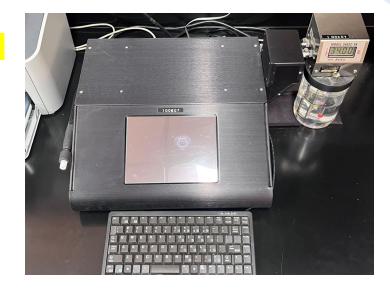


Achievements/Process Improvements:

- During 2023-24, both state programs for which Implied Consent has regulatory responsibility began an upgrade for 151 systems at 106 breath testing sites throughout the state of South Carolina.
- <u>Video equipment upgrades are in the final stages in breath testing rooms.</u> The total cost for these systems plus a five-year maintenance agreement is \$3,350,000. Video systems are upgraded every five years.
- The legislature designated \$1.9 million to upgrade <u>breath testing devices</u> throughout the state and to replace 15-year-old instrumentation. The bid process for these instruments has been completed and replacement of the instruments will begin in 2025.

Challenges Faced:

 With two new staff members, a major focus of the department has been on training in routine maintenance and linearity verifications.



COMPUTER CRIMES



Staffing

Agents:	9
Criminalists:	3
IT Support:	1

Department Metrics FY 2024-25

Assignments Received	Assignments Completed	Department Backlog at end of FY24-25
496	466	378

- Encompasses the preservation, processing, and analysis of evidence in an analog or digital format and audio and video analysis.
- Provides expertise to local, state, and federal law enforcement agencies in the scientific examination, repair (if possible), analysis and/or evaluation of electronically stored information contained on a wide variety of data storage devices.

COMPUTER CRIMES

SLED 1947 1947

Achievements/Process Improvements:

- South Carolina Computer Crimes (SC3C) processed over 145.567 TB of data during FY23-24.
- Developed a program for the tracing and seizing of crypto currency.
- Assisted a federal (US Secret Service) and a local agency (Hampton County School District) in the seizure and recovery of approximately \$950,000.
- Presented locally and nationally on Cyber Security, Cyber Crime, and Artificial Intelligence (AI).

- The rapidly changing technology of cell phones and vehicles continues to be a challenge. The new training and equipment to stay current on the newest technology is considerable.
- The increase in data size per cell phone and computer and the length of time it takes to complete a full examination is increasing.
- Recruitment and retention of qualified staff.



CRIME SCENE



Staffing

Agents:	18
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Department Metrics FY 2024-25

Assignments Received	Assignments Completed	Department Backlog at end of FY24-25
282	276	16

Services and Capabilities:

 Provides assistance to local, state, and federal law enforcement agencies in the investigation of crime scenes and provides expertise in Bloodstain Pattern Analysis/Crime Scene Reconstruction, and Advanced Digital Photography.

CRIME SCENE



Achievements/Process Improvements:

- Procurement of two drones. The drone program is currently being developed. The unit has five Federal Aviation Administration (FAA) certified drone pilots, with the remaining members of the unit finishing up training for FAA certification.
- Procurement of two Crime-lite Autos, a multispectral alternate light source. Crime scene agents have utilized the Crime-lite Autos on multiple scenes yielding positive results.
- The unit supervisors are continually working to improve teamwork and cooperation. This is accomplished by continuously evaluating on-call rotations to maximize efficiency of staff to reduce the potential for burn-out.

- The average years of experience within the unit continues to be a challenge in relation to assigning Field Training Agents to new hires.
- Maintaining current staff to increase the years of investigation experience within the unit.
- Recruitment of trained and experienced candidates for Scene Investigation.



FORENSIC TECHNOLOGY



Staffing

Agent:	
Technician:	1
Application Developer:	I
Information/Business Analyst:	I
IT Support	I

Department Metrics FY 2024-25

BEAST USERS	iLab USERS	Track-Kit [™] USERS
176	2,459	2,195

- Administers the Bar Code Evidence Analysis and Statistics Tracking (BEAST), Laboratory Information Management System (LIMS) program, which tracks case metrics and allows for reporting of results.
- Administers the iLab internet information system, where customers submit evidence, check case status, and download test reports and conclusions.
- Administers the Sexual Assault Kit Tracking System (Track-Kit™), which tracks the location and status of sexual assault kits throughout the criminal justice process.
- Assists law enforcement officers throughout the state, both in person and via the web-based evidence pre-log system, with the submission of physical evidence involved in criminal investigations.

FORENSIC TECHNOLOGY

Achievements/Process Improvements:

- Hired a new employee to assist with the implementation and support of the sexual assault kit tracking software (Track-Kit™).
- Completed Track-Kit user training and initiated training for ilab support. The department continues to register new end users who provide required information for portal access to Track-Kit™.

- Challenge to stay abreast of new technologies and how, if adopted, they could improve workflow, productivity, and employee job satisfaction.
- A significant amount of the computer peripherals (i.e. barcode printers, barcode scanners) utilized in forensics are aging and will need to be upgraded/replaced in the coming year.







LATENT PRINTS



Staffing

Criminalists:	9
Technician:	

Department Metrics FY 2024-25

Assignments Received	Assignments Completed	Department Backlog at end of FY24-25
869	831	163

- Utilizes various techniques for the development and enhancement of latent fingerprints on submitted evidence.
- Conducts examinations of developed and/or submitted latent prints to known standards, conducts Automated Fingerprint Identification System (AFIS) searches.
- Conducts examinations of known and unknown Footwear/Tire Tread impressions.



Achievements/Process Improvements:

- An electronic overlay method for impression evidence was created and implemented. This method allows for the examination of footwear and tire tread evidence on a computer with Photoshop software.
- A new Forensic Technician was hired, and the training process is in progress.
- A department SharePoint page was created to improve communication and document management.

Challenges Faced:

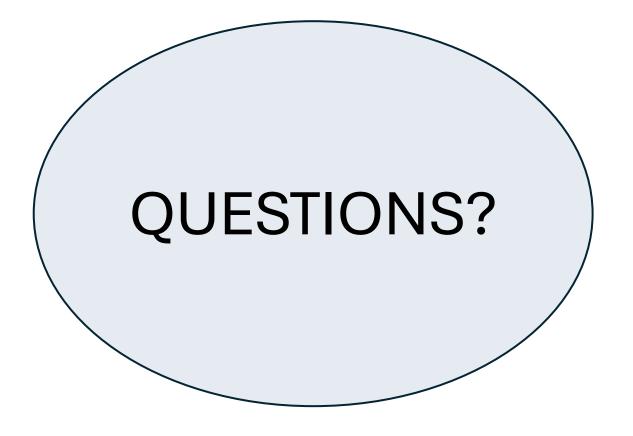
• Two department employees began training during the fiscal year. These training requirements negatively impact case production and will increase training needs and costs.





SLED FORENSIC SERVICES







Forensic Lab Web Site



Laboratory Flyer

Dr. C. Todd Hughey, Major / Laboratory Director SLED Forensic Services Laboratory







Captain Emily B. Reinhart Forensic Administration

FORENSIC ADMINISTRATION - SUPERVISION

SLED 1947 1947

Captain Emily B. Reinhart

Education:

- B.S. Medical Technology University of South Carolina (1987)
- MT ASCP Baptist Medical Center School of Medical Technology (1987)
- FBI Academy Forensic Serology (1990)
- FBI Academy Principles of DNA Analysis (1996)
- Forensic Management Academy West Virginia University (2015)

Work History: - 36 Year SLED Career

- Serologist/Criminalist Serology/DNA (1988 1998)
- Lieutenant Evidence Processing/Evidence Control (1998 2009)
- Admin. Lieutenant Quality Manager/Evidence Control (2009 2013)
- Captain Forensic Administration (2013 Present)

Committee:

State Child Fatality Advisory Committee (2000 – Present)



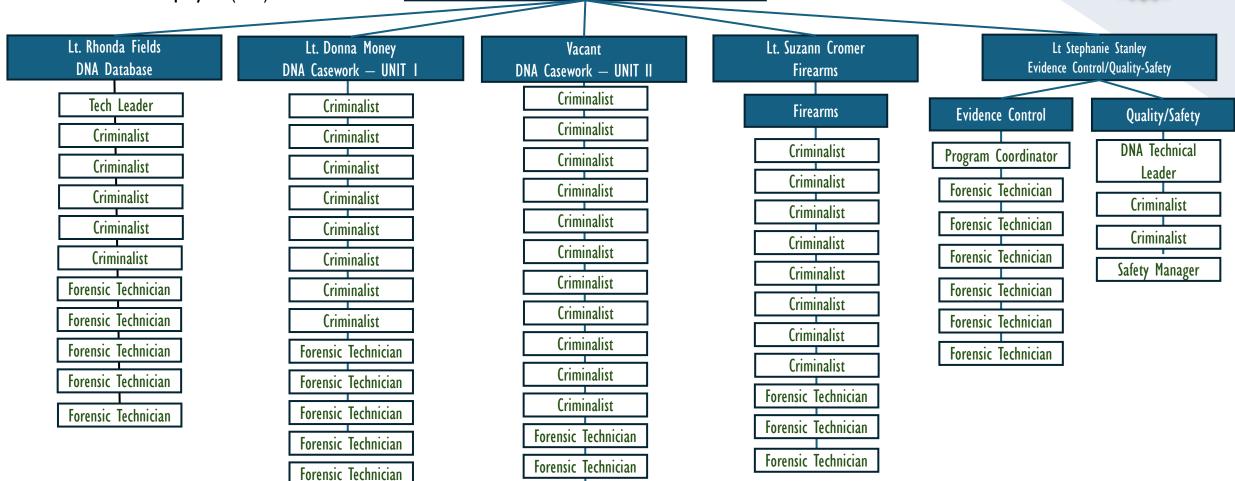
FORENSIC ADMINISTRATION - ORGANIZATION

65 Full Time Employees (FTEs)

I Part Time Employee (PTE)

Capt. Emily B. Reinhart Forensic Administration





Forensic Technician

DNA CASEWORK



Staffing:

Criminalists:	22
Technicians:	8

Department Metrics FY 2024-25:

Assignments Received	Assignments Completed	Department Backlog at end of FY24-25
2,868	2,195	13,290

- Perform scientific analyses and examinations on biological evidence such as blood, semen, and saliva in an effort to locate and identify probative biological samples for comparison purposes.
- Analyze case types including, but not limited to, the following: homicides/violent crimes (robbery, assault, etc.), sexual assaults (adults and minors), relationship testing (criminal parentage and missing persons/body identifications) and burglary/property crimes.
- The DNA Casework Department prioritizes the analysis of Homicide and Sexual Assault cases using a team approach and Direct-to-DNA methodology.

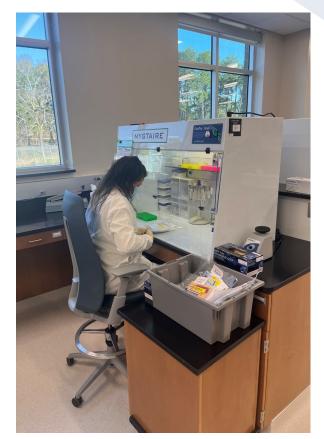
DNA CASEWORK

Achievements/Process Improvements:

- Phased implementation of the S.C. Sexual Assault Kit Tracking System (Track-Kit[™]) started in December 2023 and was completed in February 2024 to comply with H.3309.
- The contract was awarded to Bode Technology for outsourcing the analysis of sexual assault kits beginning in Q4 of 2024.
- Efforts are ongoing to evaluate improved management and assignment of cases.

- DNA Analysts have been tasked with training new analysts as well
 as maintaining their caseload. In FY 25-26 eight (8) DNA analysts
 currently in training will be authorized to perform casework and will
 help to reduce the current backlog.
- DNA Casework staff received an increased number of cases to prioritize and complete in limited time for scheduled court dates.





SOUTH CAROLINA LAW ENFORCEMENT DIVISION

DNA DATABASE



Staffing:

Criminalists:	7
Technicians:	5

Department Metrics FY 2024-25:

Samples Received	Profiles Entered into CODIS	Department Backlog at end of FY24-25
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- Manage the Combined DNA Index System (CODIS) used to provide investigative leads to law enforcement for unsolved cases. CODIS is a repository where law enforcement agencies can share DNA information to:
 - ✓ Identify suspects in unsolved cases (an offender or an arrestee hit)
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- Identify remains or missing persons through the use of CODIS.
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DNA DATABASE

Achievements/Process Improvements:

- DNA Database nearly eliminated the backlog of database samples awaiting DNA analysis.
- Two analysts and two technicians completed training contributing to the backlog reduction.
- The RapidHit ID protocol, validation and competencies were completed for use on reference samples.
- In-person DNA collection training was provided to agencies tasked with the collection of database samples from qualifying offenders to help improve the quality of submissions.

- Staff continue in their efforts to help reduce the number of database samples that lack essential information required for processing, leading to their rejection or delayed entry into the system.
- Database continues to prepare for the use of Rapid DNA on forensic samples and methods to disseminate information to participating law enforcement agencies.





SOUTH CAROLINA LAW ENFORCEMENT DIVISION

FIREARMS & TOOLMARKS



Staffing:

Criminalists:	9
Technicians:	3

Department Metrics FY 2024-25:

Assignments Received	Assignments Completed	Department Backlog at end of FY24-25
1,162	1,365	1,549

Services and Capabilities:

- Examines firearms to test operability and compliance with various statutory regulations (ex. capability for full auto fire, barrel length, and/or overall length) and examines and microscopically compares fired ammunition components.
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across the nation for entries and the Top 15 for NIBIN Leads
reported. Recently, SLED was ranked Number 2 in the nation for number
of entries.

Challenges Faced:

- The complexity of firearms cases increased including the number of items per case, cross-related cases, and additional submissions.
- Revising training program to decrease the length of time for trainees to contribute to case production is a priority.



EVIDENCE CONTROL



Staffing:

Program	ı
Coordinator:	I
Technicians:	6

Department Metrics FY 2024-25:

Cases Received	Cases Returned	Agencies Served
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Services and Capabilities:

- Assists law enforcement officers throughout the state, both in person and via the iLab internet pre-log system, with the submission of physical evidence involved in criminal investigations.
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EVIDENCE CONTROL

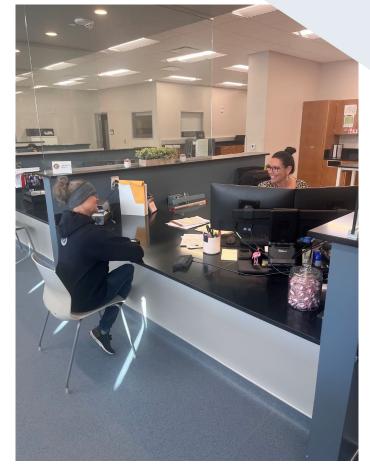


Achievements/Process Improvements:

• New employees have trained efficiently and routinely maintain the submission backlog at 0%.

Challenges Faced:

- Staff retention: In the last five years, eleven staff members have separated from the department due to promotion, reassignment, retirement, or other agency separation. The average experience of current staff members is 2.5 years.
- Bulk Evidence Submissions for Marijuana: The storage of large evidence submissions for Marijuana is a challenge for the department. These submissions often arrive to the laboratory in large boxes and/or rolling suitcases. Due to the varying sizes of these items, organized storage is a challenge within spaces equipped with additional security for drugs.
- Disposition of Evidence: Case status updates are essential for maintaining organization in the Evidence Room. Receiving updates on a routine basis from submitting agencies and staff conducting research into case dispositions remains a challenge for this department.



SOUTH CAROLINA LAW ENFORCEMENT DIVISION

QUALITY AND SAFETY



Staffing:

Criminalists:	3
Safety Manager:	l (Vacant)

Department Metrics FY 2024-25:

Proficiency Tests Administered	Forensic Testimonies Documented	Requests Completed for Laboratory Documentation
211	204	584

Services and Capabilities:

- Maintains Accreditation Compliance and conformance to established criteria for ANAB and CALEA
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- Coordinates FOIA/Discovery requests for information
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QUALITY AND SAFETY

Achievements/Process Improvements:

- Continuation of ANAB Accreditation received in January 2025. Next assessment is October 2025.
- FBI QAS assessment was completed in September 2024. Next assessment is September 2025.
- Successful completion of 2 CALEA Annual Audits of Evidentiary Property and 2 Semi-Annual Evidence Inspections.
- Partnered with the SC Commission on Prosecution Coordination, for the third year, in a New Prosecutor Boot Camp for forensic trainees to gain testimony experience.

Challenges Faced:

 The volume of incoming FOIA and Discovery requests received, and the limited advance notice given to produce documents for trial is a recurring challenge.







CONCLUSION & QUESTIONS











Lieutenant (Lt.) Stephanie Stanley Quality Manager/Evidence Control

EVIDENCE CONTROL - SUPERVISION

SLED 1947 1947

Lieutenant Stephanie Stanley

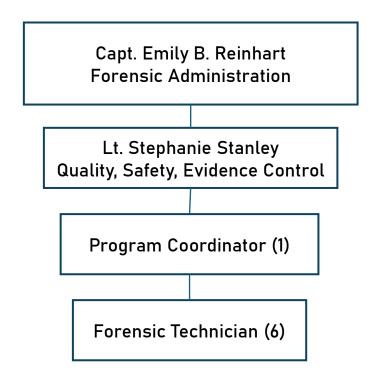
- Education
 - BS Biological Sciences Clemson University
- Work History
 - Forensic Technician DNA Casework (Feb. 2005-Sept. 2005)
 - DNA Analyst DNA Casework (Sept. 2005 May 2021)
 - Promoted to Lieutenant Quality and Safety (May 2021 Present)
 and Evidence Control (Jan. 2024 Present)

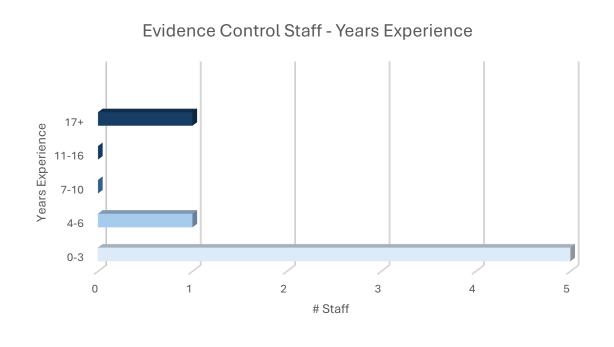


EVIDENCE CONTROL - ORGANIZATION



- 7 Full Time Employees (FTEs)
 - 1 Program Coordinator
 - 6 Forensic Technician I



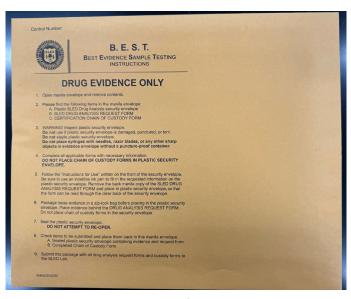


EVIDENCE CONTROL - SERVICES

 Assists law enforcement officers throughout the state, both in person and via the iLab internet pre-log system, with the submission of physical evidence involved in criminal investigations.

POSTAGE

 Distributes evidence collection kits to local law enforcement, to include BEST Kits, Blood/Urine Collection Kits, and DNA Buccal Swab Collection Kits.

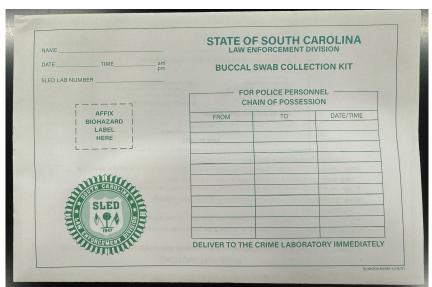


(NAME OF PERSON SENDING KIT) (STREET ADDRESS) (CITY, STATE, ZIP CODE)

Blood/Urine Collection Kit

SOUTH CAROLINA LAW

COLUMBIA, SC 29221-1398 ATTN: TOXICOLOGY

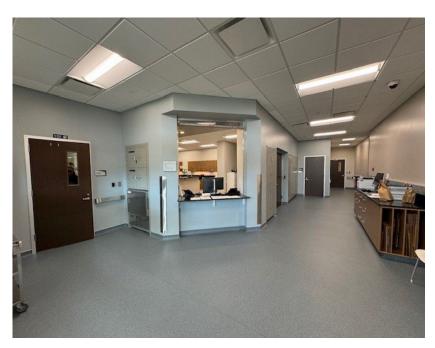


DNA Buccal Swab Collection Kit SOUTH CAROLINA LAW ENFORCEMENT DIVISION

EVIDENCE CONTROL — SUBMISSION PROCESS



 Evidence is submitted to the laboratory through evidence submission lockers or by direct assistance from a staff member.







Technician Workstation

Customer Lobby

Evidence Lockers

EVIDENCE CONTROL — EVIDENCE STORAGE

• Evidence Control manages daily operations of the Evidence Room, to include the transfer of all evidence for analysis to forensic personnel and the return of evidence back to submitting agencies. As of July 2025, there are 36,871 cases stored in the Evidence Room, which includes 122,866 items of evidence.



The Evidence Room is equipped with high density, mobile storage units with additional security for drugs, weapons, and valuables for compliance with CALEA accreditation standards.



SOUTH CAROLINA LAW ENFORCEMENT DIVISION

EVIDENCE CONTROL — EVIDENCE DESTRUCTION

 Assists SLED and other law enforcement agencies with destruction of drug evidence on closed/adjudicated cases.



EVIDENCE CONTROL — SC Preservation of Evidence Act



(Section 17-18-20) Custodian of Evidence:

 An agency or political subdivision of the State including, but not limited to, a law enforcement agency, a solicitor's office, the Attorney General's Office, a county clerk of court, or a state grand jury that possesses and is responsible for the control of evidence during a criminal investigation or proceeding, or a person ordered by a court to take custody of evidence during a criminal investigation or proceeding

(Section 17-28-320 C): Length of Time Evidence Must be Preserved:

- <u>Trial Convictions:</u> For defendants convicted by bench or jury trial, the physical evidence and biological material must be preserved until the person is released from incarceration, dies while incarcerated, or is executed for the offense enumerated in subsection (A).
- Conviction by Plea: For defendants convicted or adjudicated on a guilty or nolo contendere plea for the offense enumerated in subsection (A), the physical evidence and biological material must be preserved for seven years from the date of sentencing, or until the person is released from incarceration, dies while incarcerated, or is executed for the offense enumerated in subsection (A), whichever comes first.

Evidence Control preserves qualifying evidence at the direction of SLED Agents assigned to a case.

EVIDENCE CONTROL - GOALS

SLED 1947 1947 1947

Staff Retention

 Maintain staff members to ensure trained individuals are available to complete submission process of cases and internal transfers of evidence for forensic employees.

Backlog

• Ensure login process is completed on evidence submissions without delay. New employees have trained efficiently and routinely maintain the submission backlog at 0%. The login process is being completed on the same day evidence is submitted.

Destruction

 An incinerator for the destruction of drug cases was installed at the laboratory. This equipment allows the department to conduct destruction of drug evidence for SLED and other law enforcement agencies on a weekly basis.

EVIDENCE CONTROL - CHALLENGES



- Staff Retention
 - Retaining trained staff members has been a challenge for the department. In the last five years, eleven staff members have separated from the department due to promotion, reassignment, retirement, or other agency separation. Average experience of current Evidence Control staff members is 2.5 years.
- Bulk Evidence Submissions for Marijuana
 - The storage of large evidence submissions for Marijuana is a challenge for the department. These submissions often arrive to the laboratory in large boxes and/or rolling suitcases. Due to the varying sizes of these items, organized storage is a challenge within spaces equipped with additional security that is required for drug evidence in accordance with accreditation standards.
- Disposition of Evidence
 - Case status updates are essential for maintaining organization in the Evidence Room.
 Receiving updates on a routine basis from submitting agencies and staff conducting research into case dispositions remains a challenge for this department.

EVIDENCE CONTROL — RELATIONSHIPS WITH CUSTOMERS

- The department has daily interaction with law enforcement agencies across the entire state.
- Law enforcement agencies will often call with questions on proper packaging of evidence items and are guided by staff members.
- The Chain of Custody for evidence items begins with the Evidence Control Department during the submission process. Staff members participate in the judicial process by providing testimony in court.
- Evidence Control staff assists law enforcement with sexual assault kit tracking system (Track-Kit™). Technicians ensure the agency is registered and kits have been properly tracked in the system.

CONCLUSION & QUESTIONS









Lieutenant Suzann F. Cromer Forensic Firearms and Toolmarks

FIREARMS & TOOLMARKS - SUPERVISION



Lieutenant Suzann F. Cromer

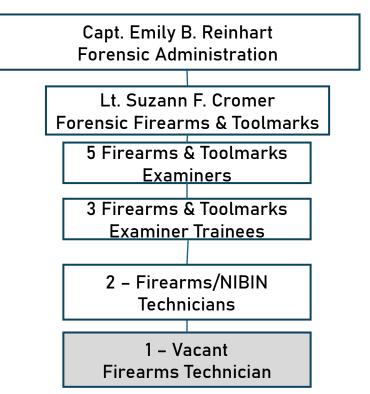
- Education
 - Bachelor's Degree Psychology Clemson University (1997)
 - Graduate Studies Criminal Justice University of South Carolina (1997-2000)
- Work History
 - Firearms & Toolmarks (1998) Intern
 - Firearms & Toolmarks (1998-2000) Administrative Assistant
 - Firearms & Toolmarks (2000-2023) Examiner
 - Firearms & Toolmarks (2023-present) Lieutenant



FIREARMS & TOOLMARKS - ORGANIZATION

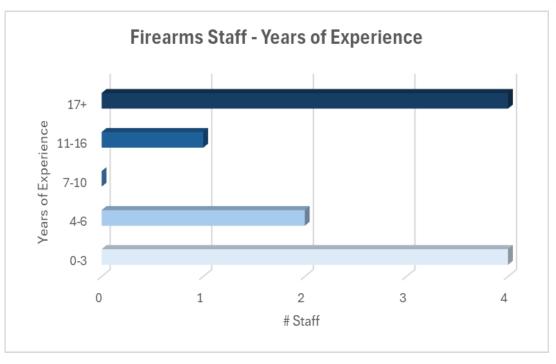


- 12 FULL TIME EMPLOYEES (FTEs)
 - 9 Firearms/Toolmarks Examiners
 - 2 Forensic Technicians II
 - 1 Vacant Position Forensic Technician II



Firearms & Toolmarks	
Years Experience	# Staff
0-3	4
4-6	2
7-10	0
11-16	1
17+	4

- 1 Shared Question Document Examiner/NIBIN Assistance
- 1 Columbia Police Department NIBIN Tech (Non-Forensic Staff)

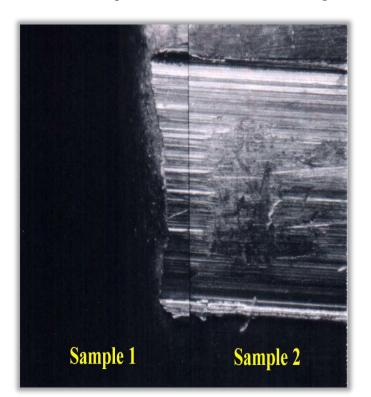


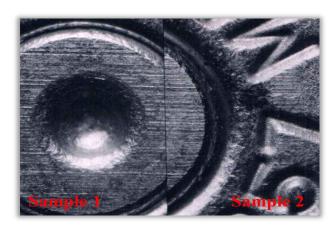
FIREARMS & TOOLMARKS - SERVICES

- FIREARMS IDENTIFICATION Microscopic comparisons of fired bullets, cartridge cases, and other ammunition components with each other and/or with suspect firearm(s).
- FIREARMS FUNCTION TESTING Determine operability or modifications on firearms.
- SERIAL NUMBER RESTORATION When a serial number has intentionally been removed, altered, and/or obliterated, it can sometimes be restored to legible condition using acid etching techniques.













South Carolina Law Enforcement Division

Capabilities & Services — Firearms Identification



- Firearms Identification
 - Microscopic comparisons of fired bullets, cartridge cases, and other ammunition components with each other and/or with suspect firearm(s).
 - Forms the bulk of the examinations.
 - Based on the condition and amount of evidence, examinations may take a few hours, several days, or weeks.
 - This discipline is known as <u>Firearm Identification</u>. It is often erroneously called Ballistics, which is the science of the projectile in motion.

Capabilities & Services — Firearms Identification



- Examples of Firearm Identification Exams
 - Matching a bullet from a victim to a firearm recovered from a suspect.
 - Matching a cartridge case at a crime scene to a firearm recovered from a suspect.
 - Comparing multiple fired bullets or cartridge cases to determine if they were all fired by one or more firearms, in the absence of a submitted firearm.
- General Rifling Characteristic Exam (GRC)
 - Performed when a bullet is received without a firearm or without the correct suspect firearm.
 - Provides a list of the <u>possible</u> manufacturers and/or origins of the suspect firearm to be used as an investigative tool.
 - The list included is not intended to be complete or all inclusive as new firearm models are

continuously being produced.



Capabilities & Services — Function Testing

SLED SLED 1947 1947

- Function Testing
 - Does the firearm function properly?
 - Are the safeties functional?
 - What is the trigger pull weight of the firearm?
 - Is the rifle or shotgun too short for legal limits?
 - Has this Firearm been altered to function full-auto?







Capabilities & Services — Serial Number Restoration



- Serial Number Restoration
 - When a serial number has intentionally been removed, altered, and/or obliterated, it can sometimes be restored to a legible condition using chemical etching techniques.
- Factors That Can Influence Serial Number Restoration Success
 - The manner in which the characters were originally applied
 - The technique(s)/method(s) used to attack, alter, or obliterate the serial number
 - The amount of metal removed during both the obliteration efforts and the examiner's
 - preparations
 - The composition of the metal in the firearm or serial number plate



SOUTH CAROLINA LAW ENFORCEMENT DIVISION

FIREARMS & TOOLMARKS - SERVICES

- DESTRUCTION OF FIREARMS Firearms, knives, and other metal items are submitted to the Department where they are inventoried and evaluated for destruction or retention in the Firearms Reference Collection. Items are submitted in accordance with the SLED Authorization for Destruction form and the SC Preservation of Evidence Act. SC Code § 17-28-70
- FIREARMS REFERENCE COLLECTION Firearms retained for the collection are utilized by Firearms & Toolmarks Examiners to assist with training and casework. SC Code § 16-23-405.
- TOOLMARK EXAMINATION Microscopic comparisons of toolmarks on components with a suspect tool(s).











SOUTH CAROLINA LAW ENFORCEMENT DIVISION

Capabilities & Services — Toolmark Identification



- Toolmark Identification
 - Toolmarks can be caused when one object is marked or damaged by a harder object. Toolmarks can be static (a hammer hitting a nail) or dynamic (cutting with shears).
 - The examination and identification of fired bullets and cartridge cases is nothing more than a specialized toolmark examination.
 - Toolmarks differ from firearms in that there are more surfaces to look at. On a screwdriver, for instance, there are two sides to look at for possible marks. On a cutting tool there are four sides of the jaws.
 - Due to our evidence submission guidelines, no examinations will be conducted unless a suspect tool is recovered <u>and</u> that tool can be linked to a particular suspect via possession, latent prints, DNA, etc.

Capabilities & Services — Destruction of Firearms



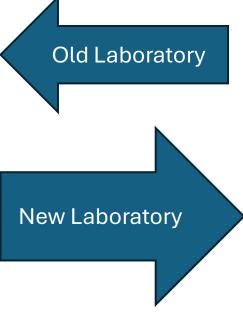
- Destruction of Firearms
 - The Firearms Department will destroy all types of firearms for agencies within the state.
 - The submitting agency must have a completed SLED Authorization for Destruction form. This is to ensure compliance with the Evidence Preservation Act. SC Code § 17-28-70
 - From Destruct cases, SLED can keep any seized firearm for use by its Forensic Laboratory. SC Code § 16-23-405.

Capabilities & Services — Reference Collection

SLED 1947 1947

- Provides parts for repair of evidence firearms.
- Provides standards for serial number restorations.
- Provides training aids. (Since most training is done in-house.)
- Currently, the FRC contains just under 6,000 firearms.



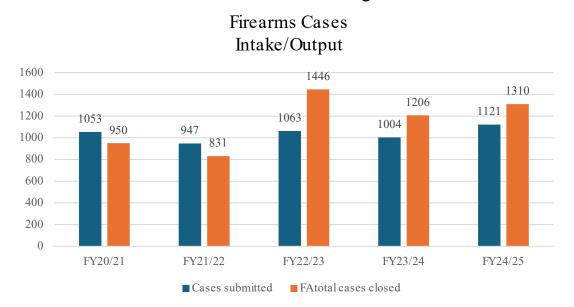


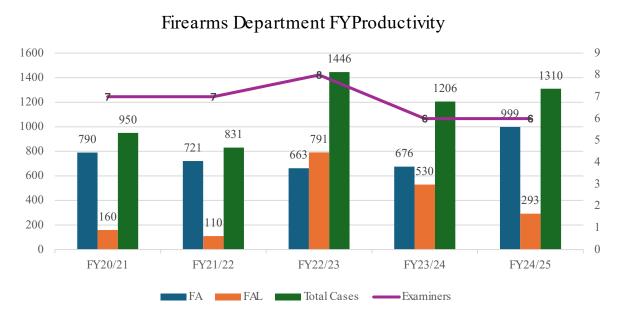


SOUTH CAROLINA LAW ENFORCEMENT DIVISION

FIREARMS & TOOLMARKS - CASEWORK

- The department has approximately 1,778 open cases with 17,508 items to be processed.
 - Six Examiners (2 of which are on reduced caseload due to supervisory or training assignments.)
 - Three Examiner trainees.
 - SLED's In-house training program for Firearms & Toolmarks Examiners can take between 2 ½ to 3 years.
 - Over the last 5 Fiscal Years, 2 Firearms Examiners separated, (including the Supervisor), one trainee resigned, and one trainee completed the training program.
 - Last Fiscal Year (FY 24/25) each examiner averaged between 6 and 21 cases per month. Closing 1,310 cases, while receiving 1,121 cases.



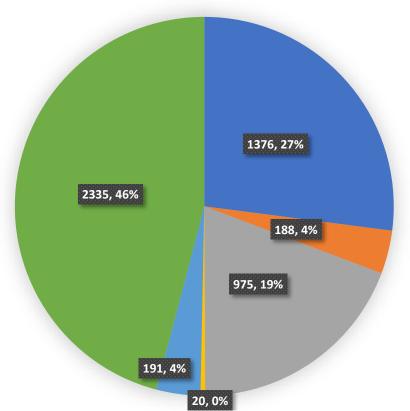


FIREARMS & TOOLMARK — PRIORITY CASEWORK



DUE TO THE NATURE OF FIREARMS, MOST CASES ARE CONSIDERED VIOLENT CRIME.







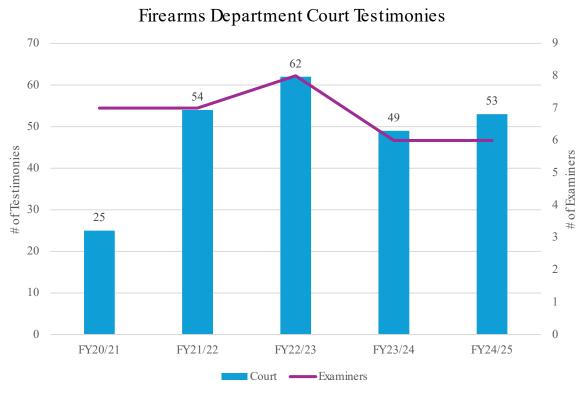
- 54% OF CASES SUBMITTED IN THE PAST 4 FISCAL YEARS WERE:
 - Homicide 27%
 - Assault 4%
 - Attempted Murder 19%
 - Child Fatalities 0%
 - Officer Involved Shootings..4%
- OTHER CASES INCLUDED:
 - Death Investigation These could evolve into Homicides.
 - Shooting Incidents These could also include Assaults.
 - Weapon Offenses

FIREARMS & TOOLMARKS - SERVICES

• COURT TESTIMONY — SLED Firearms Examiners testify in court about the results of their forensic testing.













SOUTH CAROLINA LAW ENFORCEMENT DIVISION

FIREARMS & TOOLMARKS - SERVICES

- SLED 1947 1947
- NATIONAL INTEGRATED BALLISTICS INFORMATION NETWORK (NIBIN) Searchable national database of fired cartridge cases designed to link crimes to a common firearm and develop investigative leads. The database is owned/operated by the Bureau of Alcohol, Tobacco, Firearms, and Explosives (BATFE) and is operated by SLED.
- NIBIN ENTRY BY APPOINTMENT (EBA) PROGRAM Started in 2014 to assist the agencies/departments of this state with timely NIBIN entry.

• The SLED NIBIN Program is consistently ranked in the Top 10 NIBIN sites across the nation for entries and the Top 15 for NIBIN Leads reported. Recently, SLED was ranked Number 2 in the nation for number of entries.







Capabilities & Services — National Integrated Ballistic Information Network (NIBIN)



NIBIN

- Searchable national database of fired cartridge cases designed to link crimes to a common firearm and develop investigative leads.
- Network owned by the Bureau of Alcohol, Tobacco, Firearms, and Explosives (BATFE) and is operated by SLED.
- The SLED has two acquisition and two correlation terminals on the National Integrated Ballistics Information Network (NIBIN).
- Essentially described as an "AFIS/CODIS for cartridge cases."

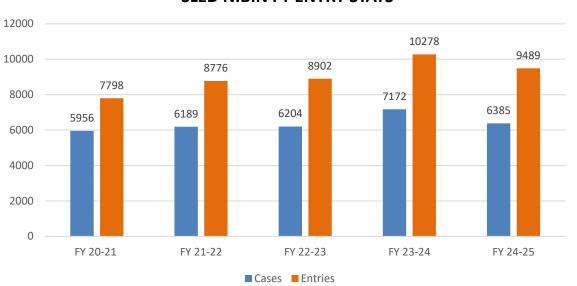






FIREARMS & TOOLMARKS — NIBIN PROGRAM

SLED NIBIN FY ENTRY STATS



- In 2020, the NIBIN Program
 Administrator presented in a nationally aired webinar series on SLED's NIBIN Program.
- SLED's Entry By Appointment Program has become a model for other agencies.

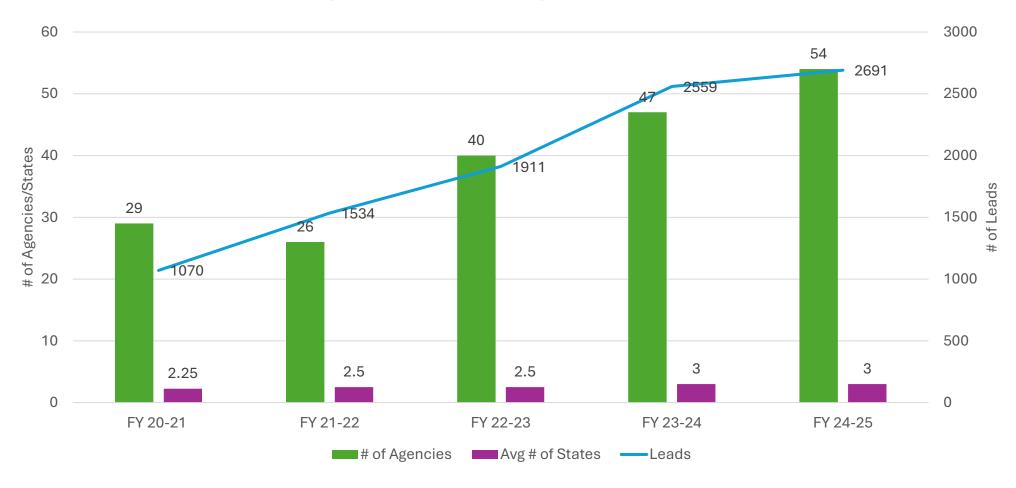
- SLED and ATF partnered with the South Carolina Highway Patrol to test fire their backlog of confiscated firearms for NIBIN entry.
- Over 760 firearms were cataloged, test fired, and entered into the NIBIN database – resulting in 72 leads in NC, SC, GA, and VA.



FIREARMS & TOOLMARKS — NIBIN PROGRAM



SLED NIBIN LEADS



Capabilities & Services — NIBIN Entry By Appointment Program

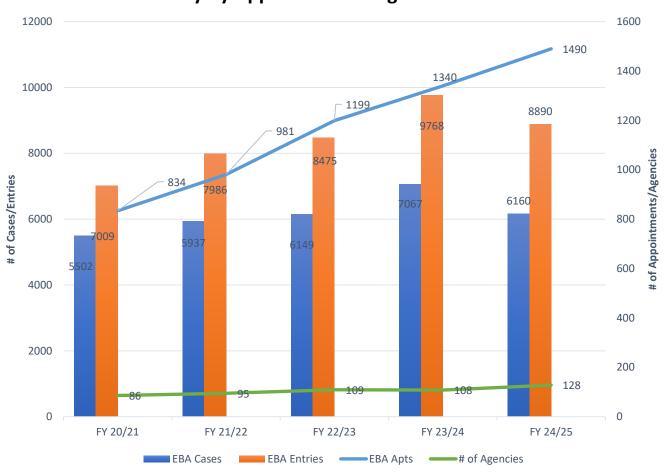


- Program Goals
 - To assist the agencies/departments of this state with timely NIBIN entry
 - Entry of firearms related evidence from crime scenes (comprehensive collection)
 - Entry into NIBIN < 48 hours from arrival at laboratory
 - EBA evidence is entered the day it is brought to the SLED Laboratory
 - To identify and report NIBIN Leads to Investigators
 - Link multiple crimes as fast as possible
 - Agencies/departments can use the NIBIN Leads to investigate and solve gun crime
 - Develop investigatory leads while leads are still hot
 - Interview witnesses while information is still fresh in their mind

FIREARMS & TOOLMARKS — NIBIN/EBA PROGRAM



Entry By Appointment Program FY Stats



PROGRAM GOALS

- To assist the agencies/departments of this state with timely NIBIN entry.
- To identify and report NIBIN Leads to Investigators.
- Agencies/departments can use the NIBIN Leads to investigate and solve gun crime.

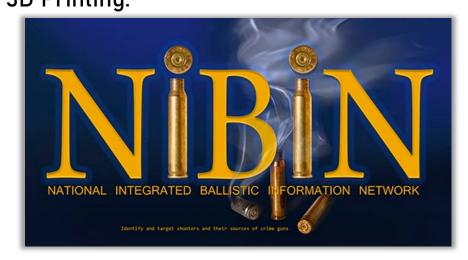
FIREARMS & TOOLMARKS — TRAINING OTHERS

SLED 1947 IN SIGNATURE OF THE PARTY OF THE P

- SOUTH CAROLINA NIBIN USERS GROUP MEETING
 - In 2023, the SLED Firearms Department hosted the meeting at the Forensic Services Laboratory.
 - AUSA Justin Holloway, AUSA Stacey Haynes, and speakers from Ultra Forensic Technology (now LEEDS Online), BATFE, and the National Policing Institute presented.

PRIVATELY MADE FIREARMS

In 2024, the SLED Firearms Department and AUSA Stacey Haynes hosted the ATF Presentation
of two classes on Privately Made Firearms – Ghost Guns, Machinegun Conversion Devices, and
3D Printing.



FIREARMS & TOOLMARKS — TRAINING OTHERS

- SOUTH CAROLINA COMMISSION ON PROSECUTION COORDINATION
 - In 2024, the SLED Firearms Department was asked to develop a day of training for the South Carolina Commission on Prosecution Coordination.
 - Agenda included Firearms & Ammunition 101, History of Firearms Identification, NIBIN Operations, Working a Firearms Case, and four different demonstration stations.



FIREARMS & TOOLMARKS — FUTURE GOALS — TRAINING

SLED 1947

- On-board and start training new FTE.
- Complete training of three current trainees.
 - Offer a Toolmark Training class at SLED from an external vendor
- Be able to send examiners to more external training.
 - Association of Firearms & Tool Mark Examiners (AFTE) Annual Conference
 - SHOT Show
 - Regional AFTE Meetings
 - Tour Firearm and Ammunition Manufacturing Plants





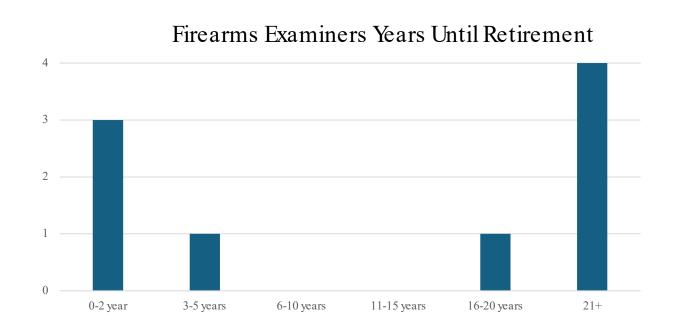


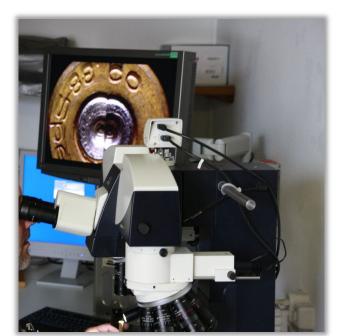


FIREARMS & TOOLMARKS — FUTURE GOALS



- Replaced four analog microscope camera/software systems with digital systems in FY 24/25, with goal to replace one more
- Acquire FTE Firearms Examiner and start training in preparation of retirement of current staff. (Training a new examiner takes 2 to 3 years.)





FIREARMS & TOOLMARKS — FUTURE GOALS



Complete evaluations and purchase a 3D Microscope system – the new equipment for Firearms
 Examination in the Future.







CONCLUSION & QUESTIONS









Lieutenant (Lt.) Rhonda Fields DNA Database Department

DNA DATABASE- SUPERVISION



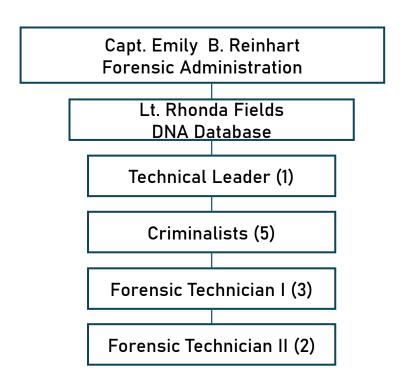
Lieutenant Rhonda Fields

- Education
 - B.S. Biochemistry Clemson University
- Work History
 - DNA Department (1999-2001)-Technician
 - DNA Database Department (2001–2008 and 2010–2013)-Analyst
 - Crime Scene (2008–2010)-Investigator
 - Promoted to Lieutenant of DNA Database February 2013
 - Serve as S.C. State CODIS Administrator
 – February 2013
 – Present



DNA DATABASE- ORGANIZATION

• 12 Full Time Employees (FTEs)







DNA DATABASE - DEPARTMENTAL STAFFING ROLES



- <u>Supervisor/State CODIS Administrator (1)</u> responsible for overseeing departmental and CODIS operations and is a currently qualified DNA analyst
- One Technical Leader (1) responsible for overseeing the technical operations of the department and is a currently qualified DNA analyst
- <u>DNA analysts (5)</u> responsible for analyzing database samples, issuing CODIS hit letters, and performing administrative functions of CODIS
- <u>DNA technicians (5)</u> responsible for processing expungement requests and database samples; two technicians also perform the laboratory portion of database sample analysis.

DNA DATABASE - GOVERNING STATUTE

SLED 1947 1947

S.C. Code Ann. §23-3-620 — When DNA Samples Required

- Authorizes collection of a DNA reference sample for inclusion in the State DNA Database, except juveniles, following a lawful custodial arrest, the service of a courtesy summons, or a direct indictment for:
 - A felony offense or an offense punishable by a sentence of five years or more; or
 - Eavesdropping, peeping or stalking, any of which are committed in this State
- Any person, including any juvenile, ordered to do so by a court and any juvenile convicted or adjudicated delinquent for any above listed offenses must also provide a DNA reference sample for inclusion in the State DNA Database

DNA DATABASE - GOVERNING STATUTE



S.C. Code Ann. §23-3-660 — Expungement of DNA record; grounds for requesting

- A person whose DNA record or DNA profile has been included in the State DNA Database must have his DNA record and his DNA profile expunged if:
 - The charges pending against the person who has been arrested or ordered to submit a sample:
 - Have been nolle prossed;
 - Have been dismissed; or
 - Have been reduced below the requirement for inclusion in the State DNA Database; or
 - The person has been found not guilty, or the person's conviction has been reversed, set aside, or vacated.
- The solicitor in the county in which the person was charged must notify SLED when the person becomes eligible to have his DNA record and DNA profile expunged. Upon receiving this notification, SLED must begin the expungement procedure.





- Provide investigative leads for unsolved cases through the use of the Combined DNA Index System (CODIS). CODIS is a repository where law enforcement agencies can share DNA information to:
 - Identify suspects in unsolved cases (an offender or an arrestee hit)
 - Link unsolved crimes (forensic hit)
- Identify remains or missing persons through the use of CODIS.
- Process DNA expungement requests in accordance with S.C. Code Ann. §23- 3-660

DNA DATABASE - PERSONNEL WORKLOADS



FY24-25

- Completed analysis of 14,485 database samples through upload to CODIS
- Issued 542 CODIS hit letters
- Dispositioned 6,875 CODIS matches
- Processed 2,233 Expungement Requests
- The workload is manageable for the current staffing level and services offered by the DNA
 Database Department. The average turnaround time of database samples for FY24-25 was 7 days
 and on 07/01/2025, only 4 samples were backlogged with no overtime needed to achieve these
 metrics.





- DNA Capacity Enhancement For Backlog Reduction (CEBR) Program Formula Grant
 - Funding allocated to DNA Database and DNA Casework Departments
 - Allocations over the last 5 years (SC award split between CODIS labs in the state):

Year	South Carolina Award	SLED Allocation
2020	\$1,313,483	\$528,483
2021	\$1,574,305	\$754,309
2022	\$1,780,301	\$780,301
2023	\$2,017,040	\$1,136,367
2024	\$1,626,979	\$642,403

- Activities typically funded by the CEBR Program
 - Overtime and fringe benefits
 - Travel and registration fees for training/conferences
 - Equipment
 - Outsourcing analysis of DNA cases
 - Outsourcing validations
 - Instrument software
 - Service contracts
 - FBI Quality Assurance Audits

DNA DATABASE — CASE OF INTEREST

DNA leads to arrest in 1980 murder, sexual assault, robbery | The State

Page 1 of 3

SOUTH CAROLINA AUGUST 10, 2016 7:09 PM

DNA leads to arrest in 1980 murder, sexual assault, robbery





BY CAITLIN TURNER cturner@islandpacket.com

Nearly 40 years after a man was shot to death and a woman sexual assaulted and robbed in Beaufort, the Beaufort County Sheriff's Office has arrested a suspect after DNA linked him to the crime.

Isaiah Gadson Jr., 63, of Burton, was charged with murder, first-degree criminal sexual conduct, kidnapping and armed robbery Wednesday afternoon in connection with the shooting death of 18-year-old David Krulewicz on Jan. 6, 1980, according to a Sheriff's Office release.

On the day of Krulewicz's death, deputies were sent to a dirt path off Old Salem Point Road where they found Krulewicz shot to death. Several bullets had struck his body, the release said.

A juvenile female told investigators she and Krulewicz, her boyfriend, had parked his van on the path around 11:45 p.m. Jan. 5.

An African-American man approached and fired several shots into the van with a

http://www.thestate.com/news/state/south-carolina/article94926467.html

9/19/2016

- On January 6, 1980, 18-year old David Krulewicz was fatally shot and his 15-year old girlfriend was raped by an unidentified suspect.
- A DNA profile was entered in CODIS from evidence in this case in January 2003.
- On June 10, 2016, a DNA sample was collected from Isaiah Gadson for an Attempted Murder charge.
- Since arrestee collection was implemented in South Carolina in 2013, a DNA sample could be collected at arrest.
- Isaiah Gadson's profile was entered into CODIS on July 25, 2016 and a hit resulted on July 27, 2016.
- A CODIS hit letter was issued to Beaufort County Sheriff's Office on August 2, 2016, resulting in his arrest and ultimate conviction for the 1980 Murder/Rape case. He was sentenced to 50 years for the murder and 30 years each for criminal sexual conduct, armed robbery and kidnapping.

DNA DATABASE - ARRESTEE SUCCESS STORY

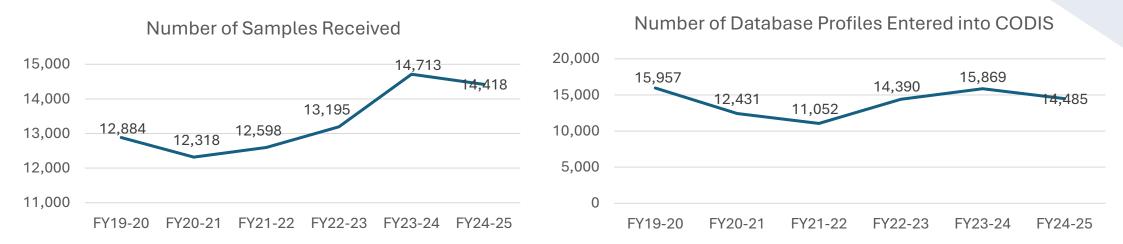


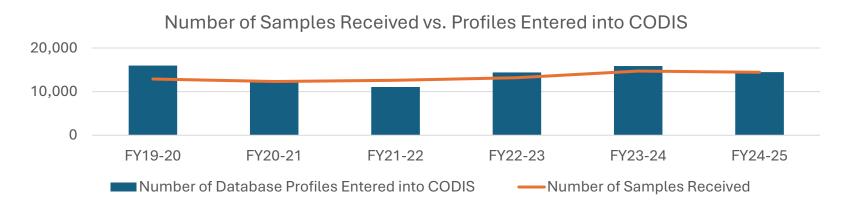
Takeaways

- Without DNA collection at arrest, this case may have never been solved The qualifying charge
 may have been dismissed. Since conviction of a qualifying offense was previously the requirement
 for inclusion in the State DNA Database, if Isaiah Gadson wasn't convicted, his profile would have
 never been entered into the State DNA Database.
- It is important for the turnaround time of database samples to remain low If profiles developed from arrestee samples are not entered into CODIS before an expungement request is received from the Solicitor's Office with jurisdiction over the qualifying offense, then the benefit of arrestee collection is lost. If an expungement request had been received for Isaiah Gadson prior to his profile being entered, his profile would not have been entered into CODIS and this CODIS hit would not have occurred.

DNA DATABASE DEPARTMENT - SAMPLE METRICS



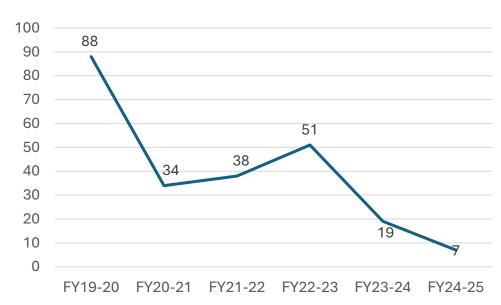




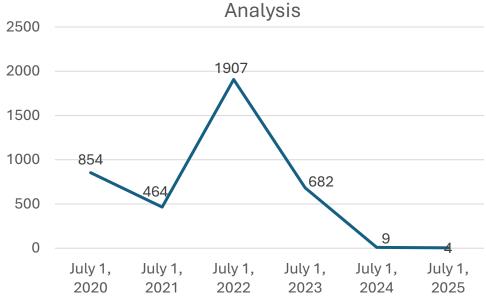
DNA DATABASE DEPARTMENT - SAMPLE METRICS







Backlog of Database Samples Awaiting



DNA DATABASE DEPARTMENT - TRENDS EXPLAINED



- The backlog (samples in-house more than 30 days without a profile in CODIS) of database samples awaiting analysis were impacted by the following:
 - COVID schedules (March 2020-March 2021) had a positive impact on the backlog because
 it limited the number of people that could be in the laboratory at the same time, which
 minimized distractions and eliminated instrumentation bottlenecks. The department was
 able to reduce the backlog, even with a significant increase in the number of CODIS hits
 reported.
 - During the FY2021-22 year, the backlog increased significantly due to personnel events.
 One of the three analysts primarily responsible for analyzing database samples was
 promoted to Technical Leader, causing duties to shift focus from database sample
 analysis to Technical Leader related duties while the remaining analysts were tasked
 with training two new analysts (positions created with the FY2020-2021 state budget).
 During this time, one analyst was also on extended leave.

DATABASE SAMPLES - TRENDS EXPLAINED

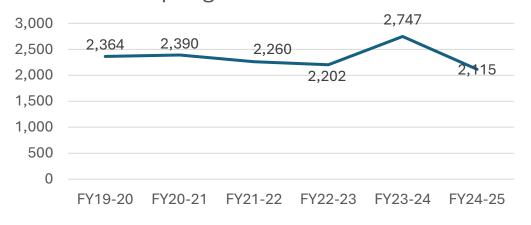


- During the FY22-23 fiscal year, the laboratory move had the biggest impact on backlog since the
 operation was at half instrument capacity and personnel time was divided between routine duties
 and moving activities. This impact would have been a lot more significant, but an analyst in
 training was authorized to independently analyze database samples within the same time frame,
 increasing the personnel dedicated to this role by 25%. Loss of laboratory support personnel and
 forensic technicians, as well as poor quality submissions also impacted the backlog.
- During the FY23-24 fiscal year, all vacancies were filled, and two analysts completed their training; demonstrating that at full personnel and instrument capacity, database samples can be processed within 30 days of receipt, which is critical so the profiles can get searched prior to possibly being subject to expungement.
- During the FY24-25 fiscal year, continued operation at full staffing levels of qualified personnel enabled the DNA Database Department to maintain a minimal backlog.

DNA DATABASE - EXPUNGEMENT METRICS



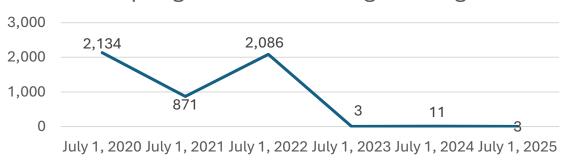




Expungements Completed



Expungement Processing Backlog



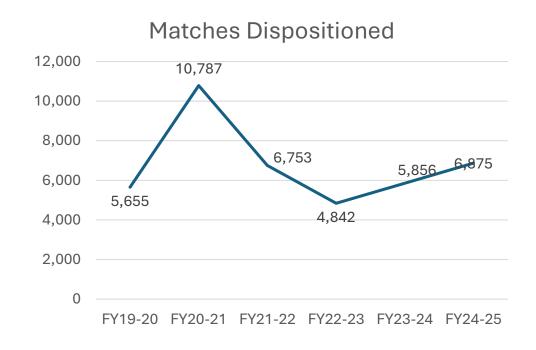
DNA DATABASE EXPUNGEMENTS TRENDS EXPLAINED

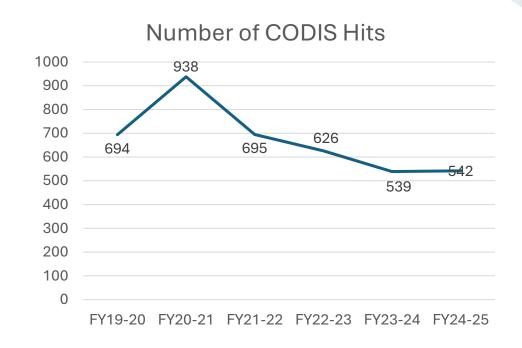


- The backlog of DNA expungements increased significantly in FY21-22 due to the loss of two individuals whose primary responsibilities were expungement processing.
- In FY22-23 and beyond, the vacancies were filled, which started having a positive impact on the expungement backlog.
- It is important for the department to stay current on processing expungement requests to avoid a legal challenge if a DNA profile that should have been expunged hits to an unsolved case.

DNA DATABASE DEPARTMENT - CODIS METRICS







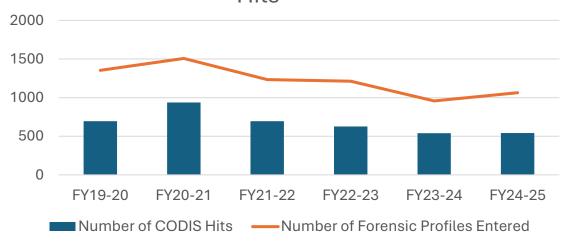
DNA DATABASE DEPARTMENT - CODIS METRICS



Number of Forensic Profiles Entered by all DNA Laboratories in South Carolina



Correlation Between Number of Forensic Profiles Entered and Number of CODIS Hits



DNA DATABASE DEPARTMENT - CODIS METRICS



- All CODIS matches returned from the CODIS software are not hits. Over the last 5 years, approximately 10% of CODIS matches were reported as hits. All matches must be evaluated by a qualified analyst before reporting a match as a hit.
- The number of forensic (evidence) profiles entered into CODIS has a significant impact on the number of CODIS hits reported.
- The number of forensic profiles entered into CODIS are impacted by the number of cases outsourced, number of local laboratories that upload profiles to South Carolina's State Database (currently there are 5), and the number of casework analysts entering profiles into CODIS.

CPA 200 punch instruments

- Number of instruments: 3
- Age: 9, 6, and 4 years
- Cost: Approximately \$55,000 each
- Use: Punches 1.2 mm sample from card containing arrestee's DNA and tracks its placement in the 96 well plate for downstream processing.



SOUTH CAROLINA LAW ENFORCEMENT DIVISION

Advanced EZIxI

- Number of instruments: 1
- Age: 6 years
- Cost: Approximately \$60,000
- Use: Performs purification step of DNA analysis to isolate DNA from other cellular debris





Proflex thermal cyclers

Number of instruments: 6

• Age: 5 years

• Cost: \$8,500 each

 Use: Replicates and fluorescently tags specific strands of DNA.



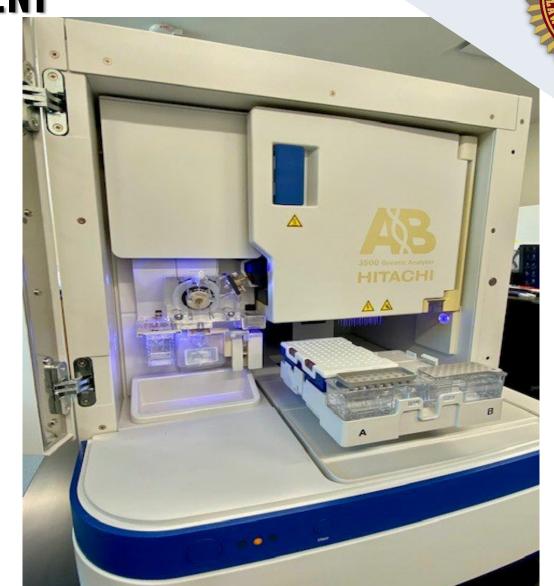
3500xl genetic analyzers

Number of instruments: 2

• Age: 11 and 15 years

• Cost: \$205,000

• Use: analyzes DNA fragments



SOUTH CAROLINA LAW ENFORCEMENT DIVISION

RapidHit ID

Number of instruments: 1

• Age: 4 years

• Cost: \$120,000

 Use: develops DNA profiles with minimal human interaction in 90 minutes.





DNA DATABASE CHALLENGES — DNA COLLECTION



- Poor quality DNA sample submissions is one of the biggest challenges in the DNA Database Department. It can impact:
 - Turnaround time for the analysis of the affected samples
 - Accuracy of records
 - Acceptability of the sample
- Approximately 30% of the database samples lack essential information required for processing, leading to their rejection or delayed entry into the system.

FOCUS AREAS/CHALLENGES — DNA COLLECTION



- To address this issue, regional in-person DNA collection training events were provided throughout the state at the end of 2023.
- In FY24-25, individual agency training was provided to 21 collection agencies.
- Since some of the critical information needed for the collection of DNA samples is obtained from LIVESCAN instruments, the DNA Database Department partners with the CJIS LIVESCAN trainers for these training events. This helps ensure that LIVESCAN issues are not an obstacle to obtaining information needed for the collection of DNA database samples.
- Another way our agency is combatting this issue is by working with our Laboratory Information Management System vendor to develop a prelog program where the individuals collecting arrestee samples would be required to enter information in mandatory fields before they would be able to complete a submission, guaranteeing pertinent information is provided to the laboratory.

FOCUS AREAS/CHALLENGES — FORENSIC RAPID DNA



- Rapid DNA analysis is a fully automated (hands free) process of developing a DNA profile without human intervention. This means that any DNA profile developed on an FBI approved Rapid instrument from an item that meets all other CODIS eligibility requirements and passes all quality flags can be immediately uploaded to CODIS.
- New Quality Assurance Standards issued by the FBI for laboratories and partner agencies using Rapid DNA analysis were effective on July 1, 2025.
- Rapid DNA systems are approved for use by the FBI on reference samples.
- The FBI is currently evaluating Rapid Systems for use on forensic samples.
- Once the FBI approves Rapid systems for use on forensic samples, SLED will begin validation of their Rapid DNA instruments.
- Per FBI standards, modified Rapid DNA analysis is required for all forensic samples. Modified Rapid DNA analysis requires interpretation and review of the Rapid DNA data by qualified laboratory personnel prior to upload or search in CODIS. SLED is considering partnering with other law enforcement agencies to offer interpretation, review, and CODIS upload services for profiles developed using Rapid DNA instruments by the partner agency.

FOCUS AREAS/CHALLENGES — FORENSIC RAPID DNA



Current status of Rapid in South Carolina

- There are currently no Rapid booking stations in South Carolina
- SLED's DNA Database Department utilizes a Rapid DNA instrument for processing reference samples from qualifying convicted offenders and arrestees. Qualifying profiles are uploaded to CODIS. The instrument is also used as part of the confirmation process when there is a CODIS hit to an expedite case. This can help provide an investigative lead faster.
- The South Carolina Coroner's Association has purchased three Rapid instruments for the identification of remains.
- A few counties have applied for congressional funding for Rapid program implementation at their agency.

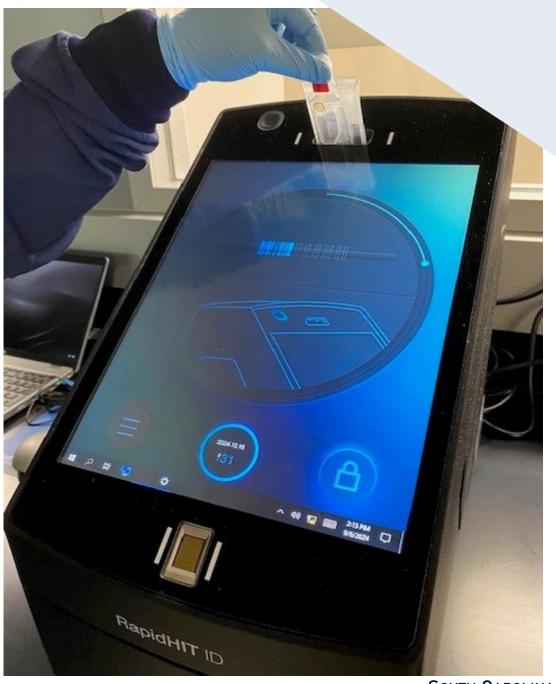
RAPID DNA

Instrument: Applied Biosystems
RapidHIT ID

• Sample capacity: 1 sample

• Cost per sample: \$225

• Current instrument cost: \$200,000





RAPID DNA



Instrument: ANDE 6C

• Sample capacity: 4 samples

• Cost per sample: \$250

• Current Instrument cost: \$200,000



DNA DATABASE - FOCUS AREA/CHALLENGES



Expert System:

- An expert system is a software program designed to interpret single source DNA data in accordance with laboratory defined quality assurance rules and identify DNA data not satisfying laboratory defined quality defined quality assurance rules, without human intervention (FBI's Quality Assurance Standards, Definitions).
- The DNA Database Department is currently validating an existing software program as an expert system.
- For profiles that pass all quality flags, this will reduce the turnaround time of database samples by eliminating the data interpretation and review requirement for profiles to be uploaded to CODIS. Profiles that violate quality rules will still have to undergo interpretation and review by a qualified analyst. It is anticipated that approximately 60% of profiles will pass all quality flags.

DNA DATABASE - DEPARTMENTAL NEEDS



Equipment

- Replace Genetic Analyzer due to age of equipment; two Genetic Analyzers will remain in service and expanded capacity of new equipment will help accommodate the growing demands of the department.
- DNA Capacity Enhancement Backlog Reduction (CEBR) Program will be considered as an alternative funding source.

CONCLUSION & QUESTIONS









Lieutenant (Lt.) Donna Money DNA Casework Department

DNA CASEWORK - SUPERVISION



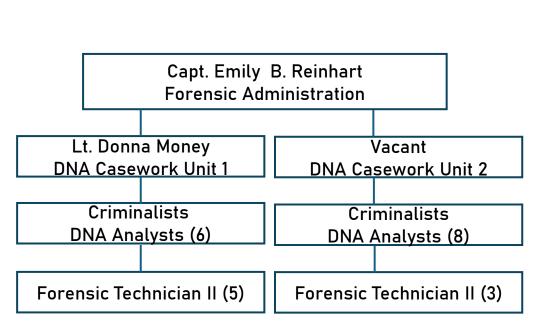
Lieutenant Donna Money

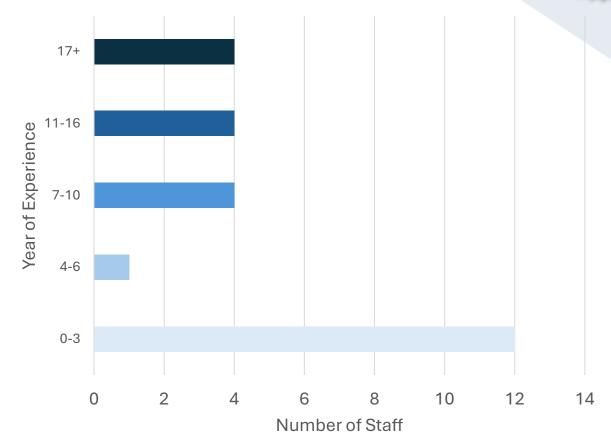
- Education
 - B.S. Forensic Science The Pennsylvania State University
- Work History
 - DNA Casework Criminalist (2012-2024)
 - Promoted to Lieutenant of DNA Casework in July 2024
- Professional Affiliations
 - SLED representative on the Statewide Forensic Nurse Examiner (FNE)
 Task Force (2021-Present)
 - American Society of Crime Laboratory Directors (ASCLD) Leadership Academy, Level I (2025)



DNA CASEWORK DEPARTMENT - ORGANIZATION







DNA CASEWORK DEPARTMENT FISCAL YEAR 2021-2022 NEW POSITIONS



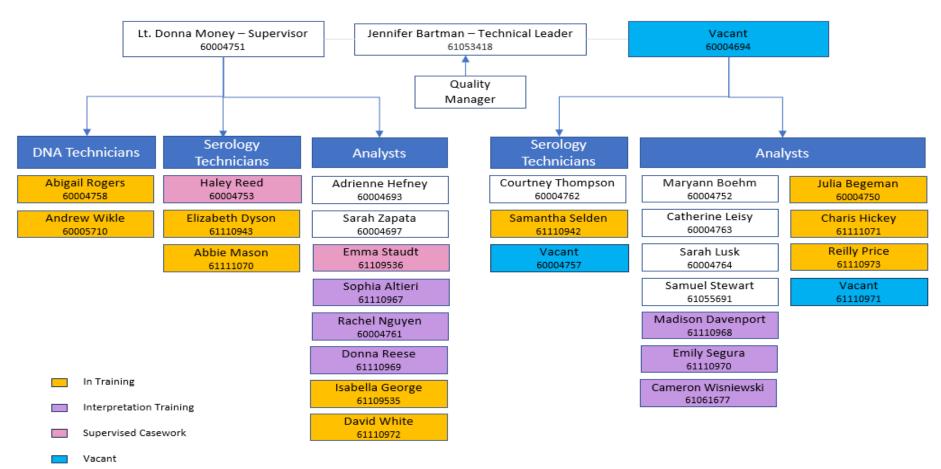
- 9 Criminalists
 - As of August 4, 2025, there is one (1) vacancy in the process of being filled
- 4 Forensic Technicians
 - As of August 4, 2025, there is one (1) vacancy, in the process of being filled

DNA CASEWORK DEPARTMENT — RESTRUCTURE

In July 2024, DNA Casework was restructured to enhance the management of additional FTE's and coordination of case assignments.



DNA CASEWORK ORGANIZATIONAL CHART Effective August 4, 2025



DEPARTMENTAL STAFFING

Organizational structure - 30 total personnel



- <u>Supervisor (2)</u> responsible for overseeing departmental unit operations and is a currently qualified DNA analyst
- <u>Technical Leader (1)</u> responsible for overseeing the technical operations of the department and is a currently qualified DNA analyst.
- <u>DNA analysts (20)</u> responsible for analyzing and interpreting casework samples, performing statistics, entering profiles into CODIS, writing DNA reports, and performing technical and administrative reviews
- <u>Serologists (6)</u> responsible for evidence processing, serology testing and the first part of the DNA analysis process
- <u>DNA technicians (2)</u> responsible for quality control, ordering supplies and instrument maintenance.

FATALITIES AND VIOLENT CRIMES CASE TYPES

- Accidental Death
- Accidental Shooting
- Arson
- Arson with Death
- Assault
- Attempted Murder
- Attempted Suicide
- •BUI
- •BUI with Death
- Child Abuse
- Child Fatality-Undetermined
- Carjacking
- Death Investigation
- Death in Custody
- •DUI
- Explosives
- Felony DUI
- Felony DUI with Death
- •Harassment

- Hit and Run
- Home Invasion
- •Homicide
- Homicide by Child Abuse
- Kidnapping
- Lynching
- Missing Persons
- Officer Involved Shooting
- Patient Abuse
- Poisoning or Attempted Poisoning
- Robbery
- Shooting Incident
- Suicide
- Threat
- Traffic Fatality
- Unexplained Death
- •WMD



SEXUAL ASSAULT CASE TYPES

- Contributing to the Delinquency of a Minor
- CSC with a Minor
- Human Trafficking
- Lewd Act Upon a Child
- Sexual Assault
- Voyeurism



NON-VIOLENT CRIME CASE TYPES

- Breach of Trust
- Bribery
- Burglary
- Contraband
- Counterfeiting
- Damage/Destruction of Property
- Drug Evidence
- Embezzlement
- Ethics Violation
- Extortion
- Failure to Stop for Blue Light

- Forgery
- Found/Recovered Property
- Fraud
- Larceny
- Malicious Injury to Property
- Official Misconduct
- Receiving Stolen Goods
- Suspicious Activity
- Vandalism
- Vehicle Crime
- Weapon Offense

HISTORY OF DNA TECHNOLOGY

SLED 1947 1947

- ABO Blood Typing performed at SLED in 1970's and 1980's
- RFLP analysis implemented at SLED in 1991
- Serology/DNA Casework Department started at SLED in 1993
- STR analysis implemented at SLED in 1999
- Y-STR analysis implemented at SLED in 2011
- STR analysis with expanded loci implemented at SLED in 2016
- STRmix[™] probabilistic genotyping software implemented at SLED in 2018
- Direct to DNA workflow implemented at SLED in 2020

DNA CASEWORK - SERVICES

Evidence Processing

• Examination of items of evidence for the potential presence of biological stains (such as blood, semen, and saliva), hairs, or other informative evidence.

Serology

• Testing to indicate or identify the presence of body fluids (blood, semen, and saliva).

DNA Analysis

- Multi-step process performed on evidentiary samples and known standards to develop DNA profiles. Profile developed from the sample is compared to DNA profiles developed from individuals involved in the case to determine inclusion or exclusion of the person identified as a possible source of the profile in question. Statistical analysis provides weight or meaning to the associations.
 - Short Tandem Repeat (STR)
 - Y-Short Tandem Repeat (Y-STR)



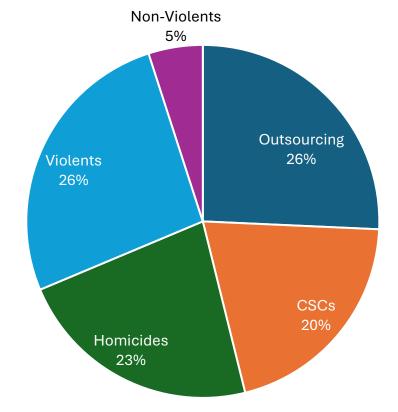
DNA CASEWORK - COMPLETED CASES BY CASE TYPE



The SLED Forensic Services DNA Laboratory prioritizes the analysis of Homicide and Sexual Assault Cases

Case Type	Number of Approved Cases
CSC	193
Homicide	213
Violent	249
Non-Violent	47
Outsourcing	177 Non-Violent 2 Violent 64 CSC

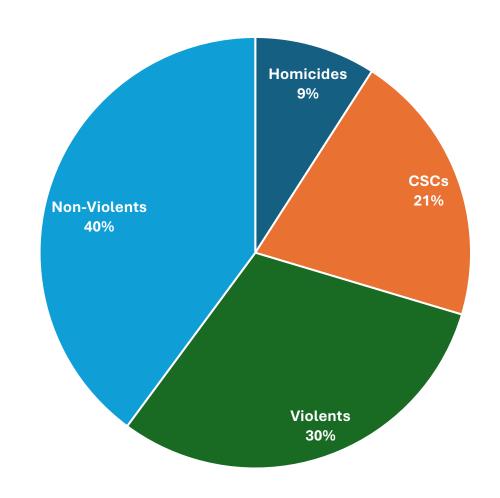
Case Types Completed FY 24-25





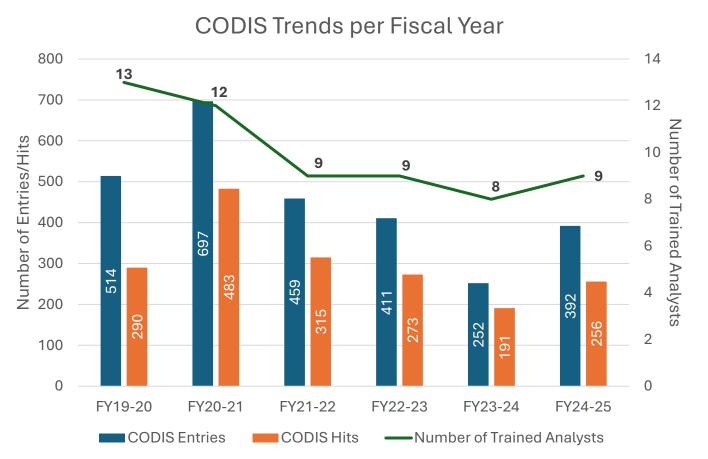


BACKLOG BY CASE TYPE



COMBINED DNA INDEX SYSTEM (CODIS) TRENDS PER FISCAL YEAR (2019-2025)





- COVID schedules (March 2020-March 2021)
 had a positive impact on the number of
 samples entered in CODIS.
- Work times were staggered to allow for the ease of instrument availability.
- Telecommuting also allowed analysts to work with minimal interruptions.
- In addition, court appearances significantly decreased and allowed staff more time to complete casework.
- The department experienced a decrease in overall productivity from 2019-2023 due to a decrease in fully trained staff and the amount of time invested in the training of new analysts and technicians.

DNA CASEWORK - OUTSOURCING PROGRAM

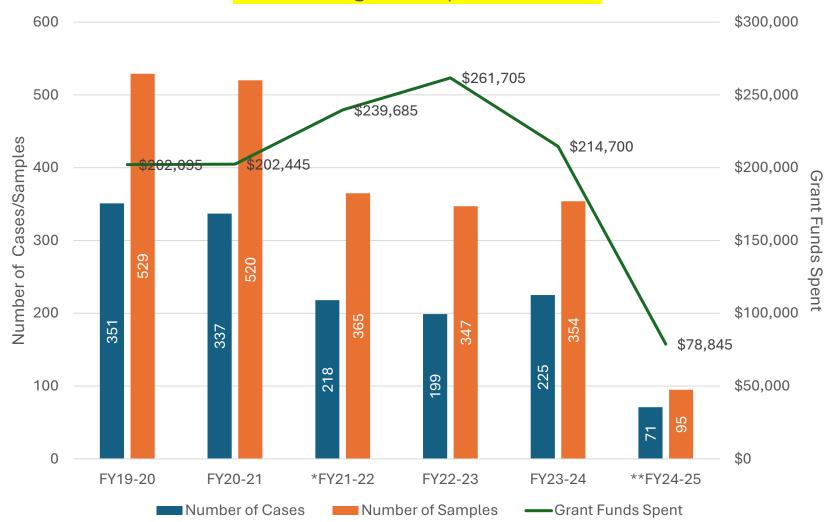


- SLED outsourcing program was established in 2011
 - Funded by DNA Capacity Enhancement For Backlog Reduction (CEBR) Program grants
 - Private vendor laboratories utilized must be accredited and must process casework samples in accordance with the FBI Quality Assurance Standards for Forensic DNA Testing Laboratories.
- Non-touch DNA property crimes have been outsourced from 2011 to present
 - Non-touch robberies and home invasions were added as eligible case types in 2021
- Sexual assault kit outsourcing started October 2024

DNA CASEWORK - PROPERTY CRIMES OUTSOURCED

Outsourcing Trends per Fiscal Year





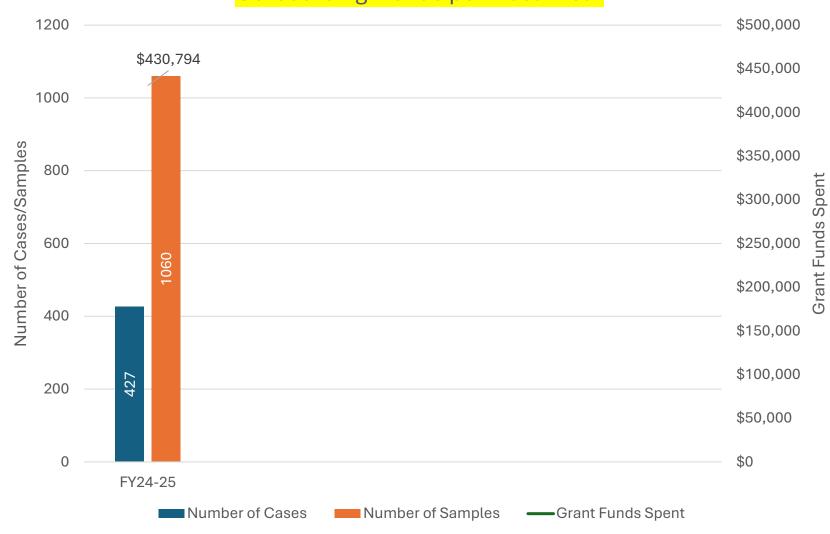
*Cost per sample increased from \$375 to \$760 with new contract awarded Q4 of 2021

**Number of cases
decreased due to funding
re-allocated to sexual
assault kit outsourcing
contract

DNA CASEWORK — SEXUAL ASSAULT CRIMES OUTSOURCED



Outsourcing Trends per Fiscal Year



DNA CASEWORK LABORATORY — PROCESSING ROOMS

• Four (4) processing rooms are located in the DNA Casework laboratory







EVIDENCE PROCESSING EQUIPMENT

Alternate Light Source (ALS)



The ALS is used for identifying areas of biological fluorescence

M-Vac®



The M-Vac® wet vacuum device is used for collecting DNA from rough or porous surfaces (ex. rock, rope, wood)



DNA EQUIPMENT — EXTRACTION INSTRUMENTS

Qiagen EZ1 Advanced



Qiagen EZ1 Advanced XL



Qiagen EZ1 Connect Fx



These instruments are used to extract and purify DNA from casework samples

DNA EQUIPMENT — EXTRACTION INSTRUMENTS

Qiagen QIAcube



These instruments are used to separate non-sperm and sperm cells in casework samples.





DNA EQUIPMENT — QUANTITATION AND AMPLIFICATION INSTRUMENTS

SLED 1947 INFORGEMENT INFORGEMENT

Applied Biosystems Real Time PCR System



This instrument is used for quantifying the amount of DNA in casework samples.

Applied Biosystems Proflex Thermal Cycler



This instrument is used for amplifying DNA in casework samples.

DNA EQUIPMENT — CAPILLARY ELECTROPHORESIS INSTRUMENTS

Applied Biosystems 3500xL

This instrument separates the DNA fragments based on size. Data generated from this instrument is used for interpretation of a DNA profile.





DNA CASEWORK - GRANT FUNDING



- DNA Capacity Enhancement For Backlog Reduction (CEBR) Program Formula Grant
 - Funding allocated to DNA Database and DNA Casework Departments
 - Allocations over the last 5 years (SC award split between CODIS labs in the state):

Year	South Carolina Award	SLED Allocation
2020	\$1,313,483	\$528,483
2021	\$1,574,305	\$754,309
2022	\$1,780,301	\$780,301
2023	\$2,017,040	\$1,136,367
2024	\$1,626,979	\$642,403

- Activities typically funded by the CEBR Program
 - Overtime and fringe benefits
 - Travel and registration fees for training/conferences
 - Equipment
 - Outsourcing analysis of DNA cases
 - Outsourcing validations
 - Instrument software
 - Service contracts
 - FBI Quality Assurance Audits

DNA CASEWORK - KEY POINTS AND CHALLENGES

- Increased costs of reagents, consumables, and equipment
 - SLED awarded \$838,807 from the 2024 Capacity Enhancement Backlog Reduction (CEBR) Competitive Grant which has allowed for the purchasing and validation of new equipment (extraction instruments and capillary electrophoresis instrument).
- DNA Analysts have been tasked with training new analysts as well as maintaining their caseload
 - FY 25-26 eight (8) DNA Analysts currently in training will be authorized to perform casework and will help to reduce the current backlog

Sexual Assault Kit Tracking System - Track-KitTM



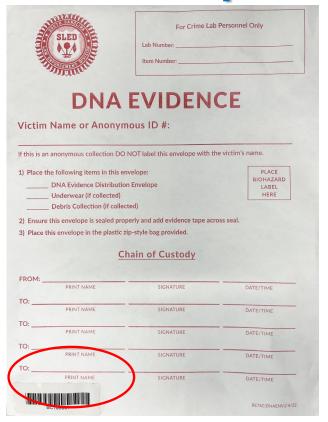
- S.C. Code Ann. § 23-3-1300
 - The State Law Enforcement Division (SLED) shall create and operate a statewide sexual assault kit tracking system.
 - All medical facilities, law enforcement agencies, forensic laboratories, or other persons or entities that collect evidence for, or receive, store analyze, maintain, or preserve sexual assault kits must participate in the statewide sexual assault kit tracking system for the purpose of tracking the location and status of all sexual assault kits in their custody.
- Track-Kit[™] was implemented by Region across SC beginning in December 2023. All Regions of SC were live with Track-Kit [™] by February 2024.



SOUTH CAROLINA LAW ENFORCEMENT DIVISION

SLED-Issued Sexual Assault Kit (DNA)

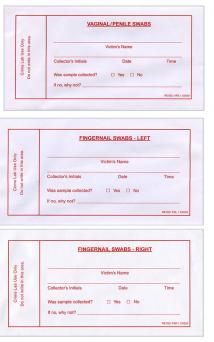
Kit Components



Track-Kit™ Barcode











KNOWN DNA STANDARD - BUCCAL SWABS

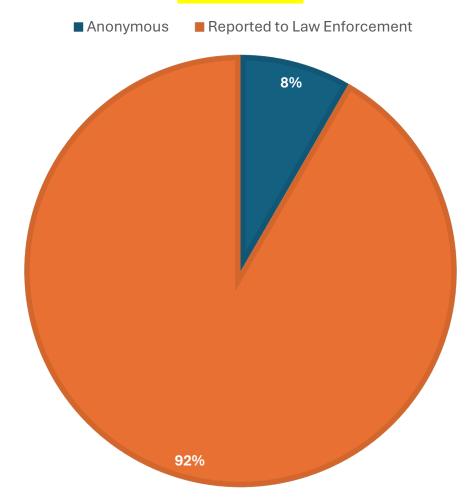
Collector's Initials





CLASSIFICATION OF COLLECTED SEXUAL ASSAULT KITS IN SYSTEM

Total number of sexual assault kits entered in to Track-KitTM: 2,748

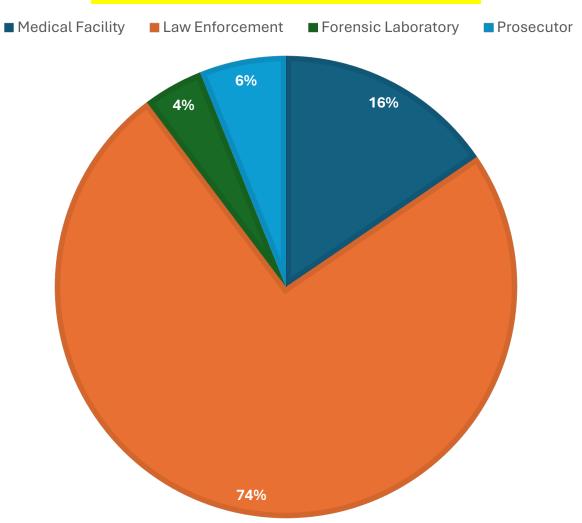






REGISTERED TRACK-KIT™ USERS

Total number of registered users: 2,195

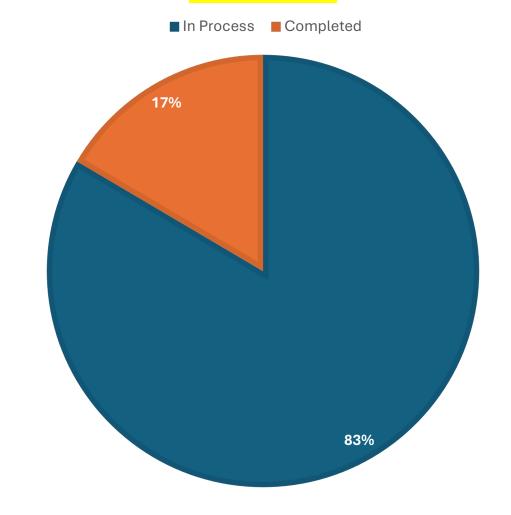






PROCESSING STATUS OF SEXUAL ASSAULT KITS IN TRACK-KITTM

Total number of Track-KitTM sexual assault kits in laboratory possession: 1,356



DNA CASEWORK - FUTURE KEY POINTS



- Rapid DNA
 - Currently only approved by the FBI for use in booking stations or FBI approved laboratories to process reference samples
 - FBI is actively working on the approval of Rapid systems for crime scene samples
- SeqStudio Genetic Analyzer
 - Newer version of the current genetic analyzers
 - Capable of sequencing and fragment analysis by capillary electrophoresis
- 2025 FBI Quality Assurance Standards (QAS) for Forensic Testing Laboratories
 - Will address Rapid DNA requirements and include updates to standards related to personnel, validations, and audits

CONCLUSION & QUESTIONS



