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Preface

Many changes have occurred in the Forensic Science community since last revision of this Physical Evidence Handbook in the field of Forensic Science. The release of the National Academy of Sciences report Strengthening Forensic Science in the United States: A Path Forward, a resulting emergence of the Organization of Scientific Area Committees (OSAC) made up of five Scientific Area Committees (SACs) which report to a Forensic Science Standards Board (FSSB) for Forensic Science under the development coordination of the National Institute of Standards and Technology (NIST), emerging technology in various fields such as new and innovative DNA technologies, imaging workstations incorporating comparative analysis software for forensics and law enforcement, and the President’s Council of Advisors on Science and Technology report (PCAST), etc. All which are worthy of attention and discussion; however, the scope of this handbook does not allow attention to direct discussion of such occurrences except to potentially make reference as they relate to the physical evidence of forensic science that is the application of various sciences to law.

The need for proper recognition, collection, and preservation of physical evidence is apparent to all who are involved in the criminal justice system. Physical evidence can directly or indirectly lead to the resolution of a crime. Charging and prosecuting decisions may be affected by the quality of the physical evidence supporting the case. The United States and Wisconsin Supreme Court decisions have placed great emphasis upon physical evidence in criminal cases.

The Wisconsin State Crime Laboratory provides an important link between collection and court presentation of such evidence—most agencies within the state rely on the Laboratory for forensic examinations. It sometimes happens, however, that materials submitted to the Laboratory prove inadequate for proper analysis, or that improper collection or packaging methods destroy valuable evidence. It is unrealistic to expect that all submitters will know how to collect evidence in the
manner required by the Laboratory, however, submitters should have at least general knowledge of proper techniques to guide them.

This handbook is offered in the belief that increased knowledge leads to understanding and that understanding leads to excellence. It was written to provide information regarding Laboratory requirements surrounding collection and preservation of physical evidence. This handbook is not intended to be a comprehensive treatment of all of the factors involved in criminal investigation.

Because the laws and legal precedents concerning collection of physical evidence are subject to change, it is impossible to give specific, up-to-date information on acceptable procedures. Therefore, it is imperative that during an investigation, close liaison is maintained between the prosecutor’s office and persons responsible for the collection of physical evidence.

The staff of the Wisconsin State Crime Laboratory has revised and updated this 9th edition of the Handbook with intention that it will continue to be of great value to those who use it. Gratitude and acknowledgement is expressed to laboratory staff members for their many contributions to the work and to the Wisconsin State Crime Laboratory colleagues in other Divisions of the Department of Justice who have assisted in seeing this revision completed. Special acknowledgement is made to Crime Laboratory Bureau Technical Unit Leaders, the Wausau Forensic Imaging Unit, and management.
Introduction
Wisconsin State Crime Laboratory Bureau

The first Wisconsin State Crime Laboratory, located in Madison, was created by the Legislature in 1947. A second laboratory opened in the Milwaukee area in 1975. The Wausau Laboratory opened for business in 1991. Since the last edition of this handbook, the three Laboratories became the single State Crime Laboratory Bureau and continues to provide technical assistance in criminal matters when requested by authorized parties.

Mission

To promote excellence in analysis, training service to the community and our organization with integrity and uncompromising quality.

Vision

To search for the truth through science and to lead and shape the advancement of forensic science.

Fig. Intro-1  Mission and Vision Statements

Contact information for the three crime laboratories within the Wisconsin State Crime Laboratory Bureau, Division of Law Enforcement Services, Department of Justice is as follows:

State Crime Laboratory-Madison
4626 University Avenue, Madison, WI 53705-2174
Phone: (608) 266-2031, Fax: (608) 267-1303

State Crime Laboratory-Milwaukee
1578 South 11th Street, Milwaukee, WI 53204-2860
Phone: (414) 382-7500, Fax: (414) 382-7507

State Crime Laboratory-Wausau
7100 Stewart Avenue, Wausau, WI 54401-8410
Phone: (715) 845-8626, Fax: (715) 848-5833

Service map review provides guidance on the nearest and targeted lab to assist agency needs.
Laboratory Service Areas

**Fig. Intro-2** Laboratory Service Areas

**Forensic Analysis Units**

Scientific analysis of physical evidence is conducted at the Laboratory\(^1\) by specialized units grouped into three sections.

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\(^1\) The capitalized term “Laboratory” is used in this handbook to refer specifically to the Wisconsin State Crime Laboratory Bureau.
## Areas of Analysis:

### Chemistry

| Controlled Substances | Analyzes for presence (or absence) of controlled substances (i.e., cocaine, heroin, methamphetamine, LSD, and THC.) |

### Toxicology

Analyzes bodily specimens for presence of harmful substances or for criminally unlawful substances. Includes unknown causes of death and felony alcohols.

### Trace

Analyzes a broad spectrum of physical evidence including paint, glass, fibers, fire debris, explosives, plastics, lubricants, household and industrial chemicals, building materials, cosmetics, tapes, ropes and cordage, metals.

### Criminalistics

| Firearms/Toolmarks | Examines firearms and tool marks; NIBIN entry of guns and unsolved cases; gunpowder pattern interpretation and serial numbers restoration. |

| Identification | Examine for presence of friction ridge (“finger”) prints; AFIS; Footwear impressions. Compare prints/impressions to establish identity/origin. |

| Forensic Imaging | Conduct photographic and digital imaging examinations and provides support for the analytical units. |

| Field Response | Respond law enforcement agency calls for major crime scenes assistance (homicides and autopsies). Crime scene response, bloodstain pattern analysis, clandestine labs. |

| AFIS Specialists | Operate State’s Automated Fingerprint Identification System (AFIS); provide identification information to all law enforcement agencies in Wisconsin. The central repository for fingerprint State arrestee identification records. |

### DNA Analysis

| DNA Analysis | Analyze and compare biological material connected with crimes to characterize genetic information about the donor. |

| DNA Databank | Maintain database of forensic evidence samples for comparisons against convicted offender and arrestee samples. Maintenance includes thorough examination of samples for deposit. |

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**Fig. Intro-3 Areas of Analysis**

The Madison and Milwaukee laboratories are full service facilities while the Wausau laboratory supports drug analysis, fingerprint/footwear analysis, imaging, and field response.
**Computer Evidence**

The Computer Forensics Unit of the Wisconsin Department of Justice is in the Division of Criminal Investigation that conducts forensic analysis of computer evidence. Information extracted from computer evidence can be a valuable component of an investigation. For questions involving computer evidence contact the Computer Forensics Unit by calling the DCI general contact number:

Wisconsin Department of Justice
Division of Criminal Investigation
(608)266-1671

**Procedure for Requesting Aid**

The Laboratory is authorized to participate in a criminal investigation only at the request of authorized governmental officials (see table). Services of the Laboratory are available to the defendant in a felony action upon his or her request and with the approval of the presiding judge (Wis.Stat. §165. 79(1)). The Laboratory also cooperates with federal and other state agencies.

**Governmental Officials Authorized to Request Laboratory Assistance**

[Wis. Stat. §165.75(3)(b)]

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<td>District Attorney</td>
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<td>Head of any State Agency</td>
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**Fig. Intro-4** Authorized submitters to the Laboratory

The head of any Wisconsin State Department may request investigations. In such cases, the services provided by the Laboratory shall be limited to the fields of health, welfare, and law enforcement responsibility which has by statute been vested in the particular state department. Examples of such state departments include the Department of Natural Resources, the Department of Agriculture, the Department of Health and Family Services, and others.
When Laboratory assistance is desired, it is suggested that the district attorney of the appropriate county be advised that an investigation is being undertaken and the Laboratory’s services are needed and requested. The Department is authorized by statute to decline to provide Laboratory service in any matter not involving a potential felony charge.

**Services Not Offered**
The Laboratory no longer offers analytical services for tire impression evidence and questioned documents. Refer to the FBI for assistance. Guidance and procedures for collecting, preserving, packaging, and shipping evidence to the FBI may be found in the FBI Handbook of Forensic Services at https://www.fbi.gov/file-repository/handbook-of-forensic-services-pdf.pdf/view. The Laboratory does not offer bite mark examination.

**Technical Support**
Regardless of case acceptance, the Laboratory is available for consultation. If in doubt, law enforcement officials are urged to communicate with the Laboratory about particular problems confronting them regarding physical evidence in their investigation. The Laboratory is open Monday through Friday, 7:45 AM to 4:30 PM, except holidays. Forensic Scientists are available 24 hours a day to answer questions concerning evidence recognition, collection, and preservation. Contact the laboratory in your service area. If unable to reach a Forensic Scientist or the Field Response Team after business hours, contact the Time Control Center at (608) 266-7633.

**Field Services**
When requested by an authorized law enforcement official, the Laboratory provides field services to assist in processing crime scenes of major offenses. Mobile units are equipped to aid in the recognition, recovery, and preservation of physical materials which may have evidentiary value for transport to the Laboratory by an authorized submitter for processing. Laboratory personnel are not vested with power of arrest and, therefore, require that suitable law enforcement personnel be present to protect and assist Laboratory personnel when processing scenes for physical evidence.
The Laboratory provides field services in the following areas:

**Crime Scene Field Response Unit** will assist law enforcement in processing suspicious death investigation

- **Bloodstain Analysis**
  - Upon request, forensic scientists will respond to suspicious Pattern death investigations to document and analyze bloodstain patterns

- **Clan Laboratory**
  - Responds to clandestine laboratories in conjunction with the Division of Criminal Chemist Investigation (DCI)

- **Autopsy**
  - Madison Field Response Unit will assist at autopsies at the Madison VA Hospital

**Fig. Intro-5** Field services offered at the Crime Laboratory Bureau.

It is important that the crime scene is well protected and kept secured by law enforcement personnel when field assistance is requested. The requesting agency should assign the officer most familiar with the case to assume responsibility for the investigation. During the examination and processing of the crime scene, the officer who is assigned the case and other officers who have attended death investigation school and/or evidence technician courses should be made available to assist Laboratory personnel.

**Fig. Intro-6** Field Response Unit for the Milwaukee area laboratory.

Law enforcement agencies requesting assistance for crime scene investigations may contact the Laboratory at the following telephone numbers:
Agencies in the southern 24-county area served by the Madison Laboratory (608)266-2031 (24-hours a day)

Agencies in the southeastern 8 county area served by the Milwaukee Laboratory should contact the Madison Laboratory (608)266-2031 (24-hours a day)

Agencies in the northern 40-county area served by the Wausau Laboratory (715)845-8626 (24-hours a day)

If unable to reach any of the Laboratories at any time call the Time Control Center (608)266-7633

**Evidence Submission Guidelines**
The Laboratory sets forth submission guidelines in partnership with customers for submission of the most probable forensic evidence first, rather than sending in all evidence in the beginning. This helps to provide investigative results in a more timely fashion.

See Appendix C.

**Informational and Training Services**
The Laboratory presents training programs and seminars throughout the state for law enforcement, professional, and medical groups. Special training sessions for law enforcement officers may be held at the local level when deemed feasible. Requests for training by Laboratory personnel should be made through the Training Coordinator at the Madison Laboratory.

Special articles are written by the Laboratory staff when warranted. Often these articles appear in the Law Enforcement Bulletin, published by the Wisconsin Department of Justice.
If you are interested in receiving a subscription, contact the Division of Law Enforcement Services at (608)266-7751. Ask to speak with the Bulletin Editor.

District attorneys, coroners, sheriffs, chiefs of police, and members of their staffs are invited to visit our Laboratories for an informational tour when in Madison, Milwaukee, or Wausau. If desired and if advance arrangements are made, the staff is available to explain and demonstrate some of the scientific methods used in collecting, preserving, and processing evidence. Laboratory tours are limited to law enforcement personnel and to technical and professional groups by prior arrangement.

Court Presentation of Findings
In addition to returning a written report of scientific findings, staff members are available to appear in courts of law as expert witnesses. At preliminary hearings, a forensic scientist’s report can stand in place of an actual appearance. Wisconsin Statutes §970. 03 (12)(b) reads, in part:

At any preliminary examination, a report of one of the crime laboratory’s ... findings with reference to ... the evidence submitted, certified as correct by the attorney general ... or a person designated by ... them, shall, when offered by the state or the accused, be received as evidence ... The expert who made the findings need not be called as a witness.

A pretrial conference between the expert who conducted the examination and the prosecutor assigned the case, or with the defense attorney (if the expert is to appear as a witness for the defense) is recommended in all cases where expert testimony by a forensic scientist is presented at trial. Forensic scientists are available for consultation and assistance in preparation of those portions of the case involving their testimony.
The Physical Evidence Handbook

9th Edition