


Bureau of Alcohol, Tobacco, Firearms and Explosives	
	<b>Fact Sheet</b>
At The Frontline Against Violent Crime	Public Affairs Division – Washington, DC
Contact: ATF Public Affairs Division (202) 648-8500	March 2011 <a href="http://www.atf.gov">www.atf.gov</a>

## **ATF NATIONAL LABORATORY CENTER**

### **Purpose**

The ATF National Laboratory Center (NLC), which opened in 2003 is the centerpiece of the Laboratory Services Division. The NLC is located in suburban Maryland and is home to the Forensic Science Laboratory – Washington, the Fire Research Laboratory, the NIBIN Branch and administrative offices.

### **Authority**

ATF laboratories hold the distinction of being pioneers in the creation of a national program for the accreditation of forensic laboratories and the first federal laboratories to achieve accreditation from the American Society of Crime Laboratory Directors/Laboratory Accreditation Board (ASCLD/LAB). ATF laboratories have maintained accreditation since 1984.

To maintain accreditation, ATF's laboratories undergo rigorous on-site inspections every five years. The evaluations include personnel qualifications and standards for evaluation; evidence control, security, handling and preservation techniques; maintenance of instruments, calibration and use of comparison standards; and internal and external proficiency testing.

ATF actively supports and encourages professional certification of its laboratory scientists and examiners. While such criteria do not exist for each laboratory discipline, where available, all senior ATF examiners and scientists have attained certification.

### **Mission**

#### **Forensic Science Laboratory – Washington**

The Forensic Science Laboratory – Washington evaluates evidence obtained in criminal investigations involving alcohol, tobacco, firearms, explosives and suspected arson. It offers the following services:

#### **Firearm and Toolmark Examination**

ATF laboratories are among the few forensic laboratories in the world that provide full service in all areas of firearm and toolmark examination. Analysis includes examination of firearms; comparison and identification of bullets and cartridge casings; restoration of obliterated serial numbers; determination of firing distances; identification of toolmarks related to bombing and arson incidents; and crime scene reconstruction in shooting incidents. Expertise in firearm and toolmark examinations allowed ATF to connect the dots in the 2007 Virginia Tech campus shootings. ATF experts also provided crime scene reconstruction for a series of shootings along Interstate 64 in Virginia in 2008, and performed numerous serial number restorations on firearms trafficking cases.

### **National Integrated Ballistic Information Network (NIBIN)**

ATF's forensic laboratories play an integral role in NIBIN, a nationwide program that uses the Integrated Ballistics Identification System (IBIS). In combination with microscopy and digital imaging, the computer system searches databases for matching toolmarks on fired bullets and cartridge casings. In the process, it allows trained specialists to associate evidence in crimes committed with firearms in multiple locations across a geographical region. Without such a system, it would take years to comb through evidence from many locations and identify fired ammunition components with a particular firearm.

### **Explosives Examinations**

ATF's forensic laboratories perform more explosives examinations than any laboratory in the world, and have participated in major investigations such as the 1993 World Trade Center bombing; the 1995 Oklahoma City bombing of the Murrah Federal Building; the Sept. 11, 2001, attacks; and other major criminal and industrial explosions. ATF's forensic chemists are specially trained in the identification of explosives and components of explosive devices. Evidence collected at the scene of explosions is examined to identify the types of explosives and the parts of the explosive devices. Such materials include blasting caps, leg wires, fuses, timing mechanisms, batteries, radio controlled components, igniters, containers, wires, tapes and other items. Forensic chemists work closely with investigators to identify device components that help to link a suspect to a crime. Physical evidence recovered during explosives-related investigations may be intact or consist entirely of debris.

### **Fire Debris Analysis**

For more than three decades, ATF's forensic laboratories have examined evidence and supported fire investigations in cases of interest to federal authorities. ATF's fire debris chemists examine evidence and recover and characterize ignitable liquid residues such as gasoline, kerosene or charcoal lighter fluid. ATF's laboratory expertise was critical in the 2005 arrest of a serial arsonist who set more than 40 fires in the Washington, D.C., area. ATF's chemists continue to provide analytical support in conjunction with church fires across the United States.

### **Alcohol and Tobacco Diversion**

ATF chemists conduct chemical, physical and instrumental analyses of suspect or illicit alcohol and tobacco products to determine the authenticity of the products and their packaging.

### **DNA Analysis**

DNA is recovered from biological materials such as blood, saliva, skin cells and perspiration. Small amounts of an individual's DNA that are left behind at crime scenes can be used to associate them with a particular item of evidence. ATF biologists are researching efforts to enhance the ability to recover DNA from degraded items that are found at arson and bombing scenes, as well as from items that contain minimal traces of DNA such as firearm triggers and grips.

### **Fingerprint Examination**

Fingerprints are a widely recognized form of personal identification. Because of their unique characteristics and permanence, the identification of latent prints (those left unintentionally on surfaces) is one of the most valuable forms of forensic evidence. In the history of fingerprint identification, no two fingerprints have ever been found to be alike in friction ridge detail (the fingerprint pattern that is formed in the womb and remains unchanged until death). ATF laboratories examine documents; component parts of bombs and incendiary devices; and firearms for the presence of identifiable latent prints.

### **Questioned Document Examination**

Since the mid-1800s, questioned document examination has been accepted and used in court systems around the world. The most common cases involve handwriting or signatures on legal documents such as titles, wills and contractual agreements. Other material includes altered or forged items such as bank checks and immigration documents. ATF examiners regularly examine written entries on federal firearms application forms and various pieces of evidence from explosives cases such as mailing labels and threat notes.

### **Fire Research Laboratory**

ATF's Fire Research Laboratory (FRL) is the first facility in the world that is dedicated to fire scene investigations. The FRL can simulate full-scale fire scenes that allow its staff to perform forensic fire science and engineering analyses that address fire growth and dynamics questions. The results allow investigators to better understand fire timelines, assess witness statements and correlate fire scene damage to fuel loads and ventilation that are present at the time of a fire.

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