Va. Crime Lab Technique Turns Suspicion Into Fact

By Susan Axelrod
Washington Star Staff Writer

RICHMOND — Within two days after the body of 12-year-old Billy Viscidi was found buried in his back yard, prosecutors hoping to clarify some of the mystery surrounding his death sent a collection of evidence to a white, five-story building here.

The cinderblock structure, located near the State Capitol, houses the headquarters of Virginia's crime laboratory, a maze of strange-smelling, cold rooms filled with costly equipment, wide, black work tables, technicians in white smocks and the residue of rapes, drug busts, automobile wrecks and death.

Inside the Forensic Science division of Virginia's Consolidated Laboratories, technicians employ the most current tests available to analyze samples of hair, blood, paint or marks on a bullet in search of a criminal whose identity may be, at most, only a suspicion in a policeman's mind.

The results of these tests, when presented in court, often are the turning point in a criminal prosecution.

The evidence Fairfax County Commonwealth's Attorney Robert F. Horan Jr. wanted analyzed was a stained portion of the Viscidi's living room carpet.

In trying to find out where the young boy died, Horan wanted to know whether the carpet's stain was blood and, if so, whether the blood was Billy's.

THE TESTS, performed by serologist Mary Jane Burton, showed there was human protein in the stain, but were unable to ascertain conclusively that the substance was human blood.

A test similar to the one run on the Viscidi's carpet is conducted like this:

A technician scrapes a portion of the stain from the rug or cuts off fibers containing the stain. To determine whether the substance is blood — animal or human — the technician adds two or three chemicals to the substance.

With one chemical, blood samples should turn a reddish-pink color, with another, blood should become blue-green. Once the technician determines the substance is blood, the next step is to see whether the substance is human blood or whether it contains human protein.

This test is done by placing a drop of the "questionable" blood solution in a well the size of a pinhead which is in the center of a circle of other tiny wells.

Anti-serums made from goat blood or rabbit blood, a drop of human blood and maybe even a drop of water fill up the circle of separate wells.

A chemical reaction then takes place and the questionable solution begins "migrating" toward the outside.

If it passes through a outside liquid, like goat's blood, then it is deemed the questionable solution is not goat blood. But if it combines with the outside solution of human blood and does not eventually pass through it, the technician can determine that the questionable solution contains human blood or human protein.

SUCH INTRICATE testing often makes the difference between conviction and acquittal. Prosecutors in Alexandria's commonwealth's attorney's office recall a rape-murder case two years ago in which the suspect was implicated after an analysis of a blood stain on his trousers.

On the surface, the stain was unlike the victim's blood but it later was matched to traits of the eight subsystems of blood categories. One prosecutor called the analysis "vital" to winning the case.

The Richmond lab, one of more than 250 like it in the United States, is run by Warren G. Johnson, a 56-year-old, white-haired former FBI agent who is himself an expert in ballistics and explosives.

Johnson oversees a $2.3 million annual budget and 86 forensic scientists who work not only in the six-year-old Richmond complex but also in satellite laboratories in Roanoke, Norfolk and Merrifield.

Johnson says television, movies and books have placed a "mystical, magic, Superman-type" aura over the heads of forensic scientists, but the power of evidence analysis can hardly be overestimated.

State prosecutors and crime lab directors across the Washington area agree that the analysis of evidence has become increasingly important in criminal trials.

THEY CITE a number of reasons for the growth of forensic science during the last decade.

The 1966 Supreme Court ruling in the Miranda case — which said police may not question a suspect until after warning him of his rights — has made obtaining confessions more difficult.

In addition, the increased sophistication of judges and juries has made them more dependent on the testimony of experts rather than the word of the cop on the beat.

Also, the FBI is reluctant to process drug analysis.

What kinds of evidence are sent to labs like the one in Richmond?

- Clothing or bed sheets upon which victims have been raped or killed. Technicians spread the clothing or sheets atop huge work tables and go over them, literally, with a fine-tooth comb, searching for hairs, fibers or blood stains that may link the crime to a suspect or give investigators a clue to the suspect's race, hair color or blood type.
- Fingerprints, bullets, tools used in burglaries, guns, documents for handwriting analysis.
- Paint scrapings from the clothes of hit-and-run victims. Intricate analyses can show the car's make and model and somewhat limit the scope of an otherwise broad investigation.
- Paint chips, slivers of wood or other evidence from the scene of a fire that are analyzed to determine whether an arson has occurred.
- Organs from corpses (the state medical examiner's office is in the same building) that are analyzed to see, for example, if death was by poison or drug overdose.
- Drugs. Drug analysis accounted for nearly half of the Richmond lab's 21,161-case load last year. The drug cases have created such a backlog that Johnson said some police departments no longer submit a single marijuana cigarette for analysis.

THE TURNAROUND time in a "routine" drug case takes roughly 45 days, which is "a month too long" in Johnson's opinion. Blood examinations take 90 days, unless the lab is asked to expedite an examination.

The Viscidi carpet analysis took less than a week, but rush work like that delays other cases four or five days, Johnson says. He would like to see the time from receipt of evidence to report be no longer than two weeks in routine cases.

With many different agencies across the country now having the capability to conduct tests — the FBI, local police department labs, state labs, the Alcohol Tobacco and Firearms division of Treasury — some law enforcement experts have suggested there now is a need for "someone to test the testers." They say there's a need for some sort of certification procedure for those who process the evidence.