

Winter 1952

Technical Laboratory of the Missouri State Highway Patrol

John F. Williams

Follow this and additional works at: <https://scholarlycommons.law.northwestern.edu/jclc>

 Part of the [Criminal Law Commons](#), [Criminology Commons](#), and the [Criminology and Criminal Justice Commons](#)

Recommended Citation

John F. Williams, Technical Laboratory of the Missouri State Highway Patrol, 42 J. Crim. L. Criminology & Police Sci. 679 (1951-1952)

This Criminology is brought to you for free and open access by Northwestern University School of Law Scholarly Commons. It has been accepted for inclusion in Journal of Criminal Law and Criminology by an authorized editor of Northwestern University School of Law Scholarly Commons.

TECHNICAL LABORATORY OF THE MISSOURI STATE HIGHWAY PATROL

John F. Williams

Sgt. John F. Williams has been in charge of the Missouri State Highway Patrol Laboratory since 1947. Joining the Missouri State Highway Patrol in 1939, he has been employed in the identification bureau and the laboratory during his entire period of service. Sgt. Williams graduated from Washington University, St. Louis in 1933 with a degree in chemical engineering. His article describes the scope of work carried on by the laboratory.—EDITOR.

The Technical Laboratory of the Missouri State Highway Patrol was started in 1937, some six years after the Highway Patrol itself was created. The Laboratory was established to provide scientific examinations of physical evidence in criminal cases for law enforcement agencies throughout the State of Missouri. This policy still prevails, and the facilities of the Laboratory are available without charge to these enforcement agencies. The Laboratory has also done some work in cooperation with law enforcement agencies of neighboring states.

The equipment originally furnished the Laboratory consisted of a comparison microscope and some photographic equipment. A Sergeant technician, with a chemical engineering degree, was placed in charge of the Laboratory when it was first started. Cooperation of the State University at Columbia, the Missouri School of Mines at Rolla, and the State Department of Health, and the use of their laboratory facilities, aided greatly in the early development of the Highway Patrol Laboratory while its own facilities were being expanded. The Laboratory is now equipped with a chemical laboratory, capable of performing both quantitative and qualitative analyses. The quantitative analysis methods include gravimetric, volumetric, and colorimetric, with the use of a Model "B" Beckman Spectrophotometer. Special chemical procedures necessary for examination of biological materials and for identification of stains of blood and other body fluids are also carried out. Ultra-violet light sources are available for fluorescent examinations. Four microscopes, including a Leitz Panphot, provide for the various types of microscopic examinations and photomicrography to record the results of the examination. A medium quartz spectrograph, with comparator densitometer, makes possible spectrographic analyses of appropriate specimens. A refractometer is provided for the determination of refraction of index of liquids and solids.

Photographic equipment now includes an 8 x 10 enlarging and reducing camera, two 4 x 5 Speed Graphic cameras, semi-micro lens for the Leitz Panphot, camera equipment for the comparison microscope, and



A View of the Laboratory of the Missouri State Highway Patrol

The chemical laboratory is through the far door at the left; office and library through the right door; the darkroom, polygraph room and gun room are not shown but are to the right of the room shown.

two 35 millimeter cameras. Darkroom facilities are complete with enlarger and contact printers. In addition to the photographic equipment in the Laboratory each of the nine troops, with headquarters throughout the State, have Speed Graphic cameras and darkroom facilities. Thus, on the spot photography need not all be done by the Laboratory personnel.

A Polygraph (lie-detector) is provided at the Laboratory where a special room has been built for its operation. As a general rule subjects are brought to Jefferson City for lie-detector tests; however, the instrument is portable and on occasions taken into the field when such use is deemed expedient.

Tape recorders are available for recording statements, admissions, etc. Other electronic listening equipment is maintained by the radio division.

The personnel assigned to the Laboratory have been increased from the original Sergeant to a staff of four technicians and a stenographer. All of the members of the Laboratory staff, with the exception of the stenographer, are uniform members of the Patrol. The use of uniform members was thought to be advisable because of the greater interest in the organization and in the work which was shown by uniform members, and the reception which these members receive when testifying in court. The educational and training background of the Laboratory members is considered important and was taken into consideration in the selection of the Laboratory personnel. The training of the personnel

includes a chemical engineering degree for the Sergeant in charge, a degree in chemistry for one technician, a college degree for one other technician, and several years of college toward an engineering degree by the remaining technician. In addition to these technicians, one technician from the Identification Bureau does some work in the Laboratory on the processing and identification of latent fingerprints.

A reference library of technical information is maintained for the Laboratory. The library also contains general information for the use of other members of the Patrol.

Reference files are maintained and developed as facilities and the time and material become available.

Types of examinations handled by the Laboratory include chemical analyses of all types—identification of stains, document examinations, latent fingerprint work, firearms examination and identification, microscopic examinations, spectrographic analyses, tool mark comparisons, and many other miscellaneous examinations, identification, and comparison of materials which will tend to connect a suspect with a particular crime. The Laboratory handles some 700 cases a year, which requires over 2,000 separate examinations since several specimens are often submitted in a single case. Cases requiring highly specialized knowledge or facilities, such as pathological examinations, are worked out with the cooperation of the Department of Health and the State University.