



UNDER the SCOPE



A Closer Examination
from the Benchtop



AUGUST 2026



EYE ON IT



UPCOMING GHQ LAB MOVE

Construction for the new Jefferson City laboratory is still on track for completion by November 2026. While the timeline for relocation of services has not yet been finalized, our priority is to minimize disruption to our submitting agencies. In the meantime, evidence submission and examinations continue at the current laboratory location. To prepare for the impending move, please pick up your completed evidence at your earliest convenience.



TRAINING OPPORTUNITIES

We will be hosting a free four-hour POST-certified class that is open to law enforcement personnel. It will cover an overview of all sections of the laboratory and their capabilities, with a special focus on evidence packaging. Please contact Ashley Jarvis at Ashley.Jarvis@mshp.dps.mo.gov to reserve your spot.

AUG 11

Troop G / I
Rolla, MO

AUG 26

Troop H
St. Joseph, MO



UPCOMING EVENTS

SEPT 7

Labor Day
Laboratory Closed

SEPT 20-26

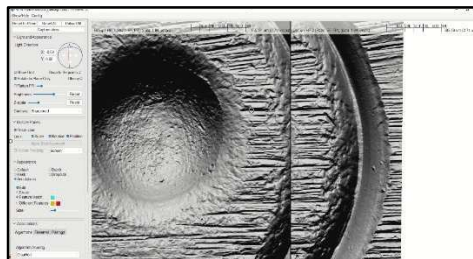
National Forensic Science
Week

OCT 12

Columbus Day
Laboratory Closed

Virtual Comparison Microscopy: The Future of Firearms Examination

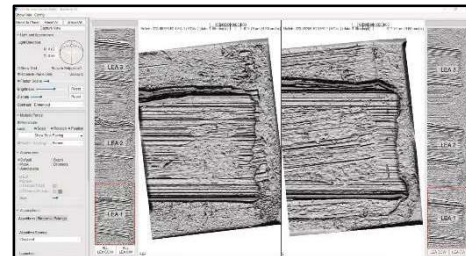
The comparison of fired ammunition components to firearms is a common laboratory request. For nearly a century, firearm examiners have used the comparison microscope to examine and compare the microscopic marks imparted to fired bullets and cartridge cases by a firearm. While the comparison microscope has evolved to include better optics, higher magnifications, and digital cameras, the basic function has remained the same. However, new technology has been under development that is now being adopted by forensic laboratories to aid in the comparisons of fired ammunition components: Virtual Comparison Microscopy (VCM). VCM systems use a scanner to capture high resolution 3D images of an item's surface. The system's computer software then generates a virtual 3D representation of the scanned surface, which includes surface contour information.



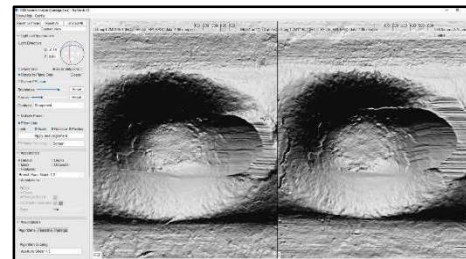
Images can then be examined and compared using the system's computer software, allowing an examiner to adjust an item's orientation and the virtual lighting upon the items as if they were being viewed on a traditional comparison microscope.

If you have any questions about Firearms
and Tool Marks, please contact us.
[Springfield Laboratory: \(417\) 868-9400](tel:(417)868-9400)
[Jefferson City Laboratory: \(573\) 526-6134](tel:(573)526-6134)

VCM can assist examiners by allowing faster and easier adjustment of lighting and item orientation during comparisons and enhanced visualization of microscopic detail on poorly marked items. These systems can also aid in the verification process of comparison results between labs and in examiner training.



In January 2026, the MSHP Crime Lab Division purchased a Cadre Forensics TopMatch-3D VCM system. The system includes both the company's high-capacity desktop and Versa scanners, and was installed at the MSHP Springfield Crime Lab. It is currently undergoing validation for the comparison of fired cartridge cases, prior to casework implementation. A second VCM system will be installed at the Jefferson City Lab in the future. While VCM will not replace the comparison microscope, it will provide examiners with another valuable tool to use during comparison examinations.





A MESSAGE FROM THE NEW LABORATORY DIRECTOR: CAPTAIN JOE VEASMAN

As I begin my tenure as the Director of the Crime Laboratory Division, I want to express my appreciation for the trust placed in our laboratory by the law enforcement agencies, prosecutors, and citizens that we serve. Our laboratory recognizes that the work we perform is critical to investigations, prosecution, and the pursuit of justice. We do not take that responsibility lightly.

Our commitment is to provide accurate and scientifically sound forensic services while remaining responsive to the needs of our criminal justice partners. We will continually seek opportunities to improve efficiency without compromising quality, ensuring that our work meets the highest professional and scientific standards. Additionally, it is our intent to leverage these efficiencies to reduce laboratory turnaround times to provide our partners with more timely results.

Effective forensic science depends on collaboration, communication, and mutual trust. We value the relationships we have with agencies across the state and look forward to strengthening those partnerships in the future.

To visit our
website or
contact us,
scan here:



A properly packaged firearm.



Ask the Crime Lab: Firearms

Q: What are the capabilities of the Firearms and Toolmarks section?

A: We examine firearms for identification, test for function (and malfunction), and modification. We examine the marks left on fired cartridge cases and bullets from crime scenes to determine which firearm fired that item. We can also restore serial numbers on firearms, cars, motorcycles, trailers, etc.

Q: Does the Firearms and Toolmarks section submit cartridge cases to NIBIN?

A: The MSHP Crime Lab does not currently have access to NIBIN. However, we can create standards for submission and get you into contact with various NIBIN sites around the state.

Q: What examinations are no longer performed?

A: We no longer perform distance determination, trigger pull, or suppressor testing. If you need these exams, we can help you find a lab that can assist you.

Q: How do I properly package firearm evidence?

A: Firearms should always be unloaded and packaged in a box. We ask that nothing is placed in the action or barrel of the firearm. Firearms can be secured with zip ties so long as they do not pass near the trigger. Magazines and ammunition can be submitted in the same box as the firearm if they are secured away from the firearm. We prefer the actions of firearms closed. More than once a loose cartridge has made its way into an open chamber.

Firearms found in water should be submitted in the water it was found in as soon as possible. Use a plastic tub and try not to expose it to air. Call us ahead of time so we can be prepared. We prioritize these cases to preserve the evidence.

If you cannot unload a firearm, package it separately in its own container and place a warning on the container. It should be secured but nothing is to be placed inside the trigger guard. Let us know you have a loaded firearm being submitted.

If you have a question or topic you would like to see us cover in a future issue, let us know!

Send questions or feedback to: Shelby.Massman@mshp.dps.mo.gov

FIREARM & TOOLMARK LAB LOCATIONS

GHQ - Jefferson City Lab
1510 E. Elm Street
Jefferson City, MO 65101
(573) 526-6134

Troop D - Springfield Lab
425 E. Phelps Street
Springfield, MO 65806
(417) 868-9400

