

TENNESSEE BUREAU OF INVESTIGATION
Forensic Services Division

Violent Crime Response Team Standard Operating Procedures
Collecting Gun Shot Residue



10. VCRT Procedures

10.12 Collecting Gun Shot Residue (GSR)

10.12.1 Scope

Gunshot Residue (GSR) is the test for determining if a person could have fired, handled, or been near a firearm when it was discharged. The test involves detecting residue from the primer of a cartridge that may be deposited on the surface of a person's hands or an item that was in the vicinity of a firearm at the time it was fired.

10.12.2 Definitions

Refer to VCRT 11.0 Definitions and Abbreviations

10.12.3 Chemicals and Reagents

None

10.12.4 Equipment and Supplies

GSR SEM Evidence Collection Kit
Sticky Tabs

10.12.5 Procedure

10.12.5.1 GSR SEM Evidence Collection Kit Method

This method is typically done on a person rather than an object or item of evidence.

GSR SEM stubs typically will not be taken of persons with apparent gunshot wounds.

- 10.12.5.1.1 Approval from the Assistant Director of Forensic Services (or designee) must be obtained prior to taking GSR SEM stubs on a victim with an apparent gunshot wound. This approval will be recorded in the notes.

The collection device consists of a plastic vial with a tightly fitting cap. The metal stubs in the caps are equipped with a carbon adhesive tab used for lifting residue.



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The VCRT member performing the sampling collection shall wear clean gloves or thoroughly wash their hands with soap and water and dry them immediately prior to sampling the subject's hands.

Right Hand Collection

- A. Carefully remove the cap from the vial labeled RIGHT HAND.
- B. Grasp the subject's arm above the wrist. Do not touch the subjects hands
- C. While holding the vial cap securely, press the collecting surface of the stub onto the back of the subject's hand and then onto the palm until the whole hand has been covered. When pressing the stubs on the questioned areas, apply sufficient pressure to cause a slight indentation into the surface of the skin. This is repeated until the stub is no longer sticky.
- D. After sampling, return the cap to the RIGHT HAND vial and place into the kit envelope.

Care should be made to avoid heavily soiled or bloody areas.

Left Hand Collection

Follow the same procedure as above with the vial marked LEFT HAND.

The kit is then properly packaged, sealed, and labeled.

Detailed instructions can be found in the GSR Evidence Collection Kit.

Do not include ammunition in the same packaging as the GSR SEM Evidence Collection Vials.

10.12.5.2 Collection of Gunshot Residue From Items

SEM GSR Stubs (Sticky Tab Method)

Additional samples may be taken using SEM GSR stubs that are kept with the Microanalysis equipment on the VCRT truck. These consist of a metal stub with a carbon adhesive tab under a protective cover.

When items of evidence need to be processed for gunshot residue (such as a vehicle) these stubs should be used.

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Before collection of GSR samples, the VCRT member shall wear clean gloves.

Using clean tweezers remove the protective covering and touch the adhesive tab to the questioned areas until it is no longer sticky (this can be up to 100 touches). This stub should be placed into a stub holder box. The bottom of the stub should be secured with tape and marked appropriately as from where the sample was taken.

Samples taken from one source (such as a vehicle) can all be placed in one box.