GUIDELINES FOR COLLECTING AND FORWARDING SAMPLES FOR DNA ANALYSIS

3.1 PURPOSE

3.1.1: To provide general guidelines for the collection of touch, wearer and body fluid type samples.
3.1.2: To provide general guidelines for forwarding samples for DNA analysis.

3.2 RESPONSIBILITY

Forensic Science Examiners (however titled) from the Division of Scientific Services who have been trained in the discipline of physical evidence examination according to FB SOP-26 (Training Manual and Checklist), GL-4 (LIMS) and GL-13 (General Evidence Handling).

3.3 SAFETY

Use appropriate measures for the proper handling of biohazardous materials and hazardous chemicals according to GL-2 (Safety Manual).

3.4 PROCEDURE

The Following Should Be Noted:
This information is a general guideline for the collection of evidence for DNA testing. A trained analyst should always use their judgement and experience when examining evidence. The analyst should always take into account the type, condition, and quantity of the evidence being examined.

A. If there is a reasonable expectation that more sample remains on the item and could be collected in the future, then there is no consumption issue. See 3.4.5 below.

B. If blood is also present, then collect the sample accordingly.

C. Forward appropriate samples to DNA according to the case scenario and the Forensic Biology results.

D. The appropriate quantity of samples will be forwarded to DNA according to the following Guidelines. Additional sample may be forwarded at the discretion of the examiner with input from a Unit Lead.

3.4.1 General Instructions for the Collection and Retention of Samples from Evidence

A. For Collection

1. dH_2O is defined as deionized water, see FB SOP-21 (General Chemical and Reagent QC, section 21.4.1) and DNA SOP-1 (General Guidelines, section 1.1.9).

2. When an area is swabbed with the intention of separating the swabs (i.e. retaining half and sending half for DNA analysis), the swabs must be collected simultaneously.

3. For collecting areas for touch/wearer DNA:
   a. Remove the appropriate number of swabs from the swab package(s) and retain the package(s).

   b. Moisten the swab(s) with dH_2O.

   c. Swab the area by turning the swab(s) to ensure that all sides come in contact with the area.

   d. Place the swabs back into an appropriately labeled swab package with the moistened swab tip facing outward for drying.

   e. Samples will be accounted for according to 1.5.4.R in FB SOP-01 (Physical Evidence Examination).

   f. When possible, air dry the swab(s) over-night in a secure, designated area, separately from high DNA yield samples (i.e. blood). Samples will be transferred immediately following sub-itemization into the corresponding LIMS areas according to 1.5.4.S in FB SOP-01 (Physical Evidence Examination), GL-4 (LIMS) and GL-13 (General Evidence Handling). Moist samples may be transferred directly for DNA analysis when necessary.

4. For collecting questioned stains from non-absorbent surfaces:
   a. Remove the appropriate number of swabs from the swab package(s) and retain the package(s).

   b. Moisten swab(s) with dH_2O. (0.5% ammonia may be used to moisten the swabs for blood-like stains that are difficult to remove).

   c. Swab the stain from the surface. For limited samples, avoid spreading the stain out on the swab by collecting it on the smallest area of the swab as possible.

   d. Place the swabs back into an appropriately labeled swab package with the moistened swab tip facing outward for drying.

   e. Samples will be accounted for according to 1.5.4.R in FB SOP-01 (Physical Evidence Examination).

f. When possible, air dry the swab(s) over-night in a secure, designated area. Samples will be transferred immediately following sub-itemization into the corresponding LIMS areas according to 1.5.4.S in FB SOP-01 (Physical Evidence Examination), GL-4 (LIMS) and GL-13 (General Evidence Handling). Moist samples may be transferred directly for DNA analysis when necessary.

g. A stain or debris may be scraped from a non-absorbent surface.

5. For collecting questioned stains from absorbent surfaces:
   a. Collect swab tip(s) submitted with stains or touch samples.

   b. Cut the stain from a piece of clothing or other material.

   c. Samples will be accounted for according to 1.5.4.R in FB SOP-01 (Physical Evidence Examination).

   d. For temporary storage (i.e. in the examiner's evidence locker prior to retention) samples may remain in the custody of the examiner. See 1.5.4.S in FB SOP-01 (Physical Evidence Examination) for additional information.

B. For Retention

1. Samples can be retained in a properly labeled sterile plastic tube or paper-fold and then into a properly labeled plastic bag.

   If the sample was collected on a swab, remove the swab cotton from the stick or snap the swab tip off of the stick and place in a properly labeled, sterile plastic tube.

2. All samples collected and retained will be verified for correct labeling and contents by a second analyst (however titled) prior to its final disposition according to 1.5.4.U in FB SOP-01 (Physical Evidence Examination).

3. Heat seal the plastic bag containing the retained sample(s), initial the heat seal and transfer into freezer storage (further analysis).

C. Preparing samples for DNA Analysis

1. Remove the swab cotton from the stick or cut the appropriate quantity of stain and place in a properly labeled sterile plastic tube.

2. No more than three swabs are to be placed into one tube for DNA analysis. Place any additional swabs into a separate tube and notify DNA.

3. Place tubes into a properly labeled plastic bag.

4. All samples collected and retained will be verified for correct labeling and contents by a second analyst (however titled) prior to its final disposition according to 1.5.4.U in FB SOP-01 (Physical Evidence Examination).

5. Heat seal the plastic bag, initial the heat seal and transfer into freezer storage (DNA sample).

3.4.2 Evidence with a Latent Print Request

A. Evidence Previously Examined by the Latent Print Unit

1. Collect a sample from the designated area, as necessary, using one swab. If there is more than one designated area, it is the discretion of the examiner to collect each area separately using one swab or to collect multiple areas simultaneously using 1 or 2 swabs.

2. Each case will be evaluated to determine which of these samples, if necessary, should be forwarded for DNA analysis.
   a. No Suspect/Suspect (no arrest): Send what was collected to DNA.
   b. Suspect (arrested): Send what was collected to DNA (consumption issue).

B. Evidence with Blood-like Staining and a Latent Print Request

1. If blood-like staining has been documented to be on an item by the Submitting Agency and there is a Latent Print request, then the item will go to Forensic Biology first.
   a. If ridge-like-detail is observed in the blood-like staining by Forensic Biology, then the Latent Print Unit will be contacted to determine if serological testing may be conducted prior to being processed by the Latent Print Unit.
      i. Once determined, it will be documented on the appropriate Forensic Biology Quality Record Worksheet(s), and initialed and dated by the Latent Print Lead (or designee).
      ii. It should be noted that if a blood sample will be tested and collected prior to Latent Print processing, then the Forensic Biology examiner should test and collect the sample from the heaviest area of the staining to avoid interfering with any residual latent prints that might be present.
   b. If forwarded to the Latent Print Unit first and a blood enhancement reagent is used, then only KM testing will be conducted upon return to Forensic Biology.

2. If blood-like staining has not been documented to be on an item by the Submitting Agency and there is a Latent Print request, then the item will go to the Latent Print Unit first.

    a. If blood-like staining is observed on the item by the Latent Print Unit, then Forensic Biology will be contacted to determine if it should be forwarded to them prior to being processed by the Latent Print Unit.

    b. Once determined, it will be documented on the appropriate Latent Print Quality Record Worksheet(s), and initialed and dated by a Forensic Biology Lead (or designee).

3. If a Submitting Agency has used Amido Black on the evidence being submitted, then only the KM testing will be conducted by Forensic Biology.

4. If a Submitting Agency has used any reagent other than Amido Black on the evidence being submitted, the Deputy Director, Assistant Director and/or designee will be notified immediately.

3.4.3 Knives

A. If the knife has been super glued, swab vigorously when collecting the sample to penetrate beneath the super glue layer.

B. If there is a designated latent print area, please follow the instructions in 3.4.2 (Evidence Previously Examined by the Latent Print Unit).

C. Collect a sample from the handle area using one or two swabs.
1. No Suspect/Suspect (no arrest): Send what was collected to DNA.
2. Suspect (arrested): Send what was collected to DNA (consumption issue).

D. If requested or necessary, collect a sample from the blade area using one or two swabs.
1. No Suspect/Suspect (no arrest): Send what was collected to DNA.
2. Suspect (arrested): Send what was collected to DNA (consumption issue).

3.4.4 Underpants (see 3.4.5.C below for wearer collection)

A. Collect touch samples from each area according to the case scenario using two swabs:
1. One sample from exterior hip and waistband areas.
2. One sample from interior front panel and crotch areas (avoid crotch area if stained).
3. One sample from interior back panel and crotch areas (avoid crotch area if stained).

B. For each sample collected:
1. No Suspect/Suspect (no arrest): Send what was collected to DNA.
2. Suspect (arrested): Send what was collected to DNA (consumption issue).

3.4.5 Wearer

A. Shirt collar (no consumption issue, see 3.4.A above):
   1. Collect a sample from the interior collar using two swabs.
      No Suspect/Suspect (no arrest)/Suspect (arrested): Send what was collected to DNA.

   2. If necessary, based on the appearance of the interior collar and/or case scenario, collect one sample from both interior sleeve cuffs using two swabs.
      No Suspect/Suspect (no arrest)/Suspect (arrested): If necessary, send what was collected to DNA.

B. Hat (no consumption issue, see 3.4.A above):
   1. Collect a sample from the interior rim (interior band area at opening) using two swabs.
      No Suspect/Suspect (no arrest)/Suspect (arrested): Send what was collected to DNA.

   2. If necessary, based on the appearance of the interior rim and/or case scenario, collect a sample from the brim (bill/visor) using two swabs.
      No Suspect/Suspect (no arrest)/Suspect (arrested): If necessary, send what was collected to DNA.

C. Waistband (no consumption issue, see 3.4.A above):
   1. Collect a sample from the interior waistband using two swabs.
   2. No Suspect/Suspect (no arrest)/Suspect (arrested): Send what was collected to DNA.

D. Glove(s)/footwear:
   1. Collect a sample from the interior of each using two swabs.
      No Suspect/Suspect (no arrest): Send what was collected to DNA.
      Suspect (arrested): Send what was collected to DNA (consumption issue).

   2. If the interior of a glove cannot be determined, collect a sample from the interior and a sample from the exterior of the glove as it was received, each with two swabs.
      No Suspect/Suspect (no arrest): Send what was collected to DNA.
      Suspect (arrested): Send what was collected to DNA (consumption issue).

E. Other items may be collected for wearer and samples forwarded to DNA at the discretion of the examiner with input from the Forensic Biology Unit Lead(s).

3.4.6 Cigarette Butts/Blunts (no consumption issue, see 3.4.A above)

A. Collect approximately 1/4" of the unburnt filter end of the cigarette butt and send half to DNA.

B. Collect approximately 1/2" of the unburnt end of the blunt (include any flattened area) and send half to DNA. Remove any tobacco-type material from the interior if possible and return with blunt.

3.4.7 Paper (notes, cards, postcards*, calendar sheets etc.)

A. If there is a designated latent print area and it is necessary to collect the area separately, please follow the instructions in 3.4.2 (Evidence Previously Examined by the Latent Print Unit).

B. Collect a sample from the remaining paper surfaces, as necessary, using two swabs.
   1. No Suspect/Suspect (no arrest): Send what was collected to DNA.
   2. Suspect (arrested): Send what was collected to DNA (consumption issue).

C. If there is a designated latent print area and it is not necessary to collect the area separately, collect a sample from both the area and remaining paper surfaces together using two swabs.
   1. No Suspect/Suspect (no arrest): Send what was collected to DNA.
   2. Suspect (arrested): Send what was collected to DNA (consumption issue).

D. If there are no designated latent print areas, collect a sample from the paper surfaces using two swabs.
   1. No Suspect/Suspect (no arrest): Send what was collected to DNA.
   2. Suspect (arrested): Send what was collected to DNA (consumption issue).

*See section 3.4.8.G for removing stamps from postcards when necessary.

3.4.8 Envelopes

A. If there is a designated latent print area and it is necessary to collect the area separately, please follow the instructions in 3.4.2 (Evidence Previously Examined by the Latent Print Unit).

B. Using caution to avoid tearing, begin at one corner of the envelope and gently attempt to pry the flap apart from the envelope with forceps.

C. If the flap does not separate easily, STOP. Proceed to step F.

D. If the flap separates easily and cleanly, continue until it is completely separated from the envelope.

E. Collect a sample from the adhesive area of both surfaces using one or two swabs.
   1. No Suspect/Suspect (no arrest): Send what was collected to DNA.
   2. Suspect (arrested): Send what was collected to DNA (consumption issue).

F. Applying Steam (should be conducted in a hood)
   1. Fill a 250ml beaker with approximately 200ml dH_2O and bring to a boil.
      Note: Add more dH_2O to the beaker as evaporation occurs.

2. Beginning at one end of the envelope, hold the envelope flap approximately 1" above the steam for approximately 5 minutes. Use caution not to touch the envelope to the beaker.

3. Remove the envelope from the steam. Using forceps, gently and slowly attempt to pry apart the flap in the steamed area, avoid tearing. If the flap begins to separate from the envelope continue to gently pry it apart until the flap becomes stiff as it dries and will no longer separate.

4. Repeat steps b and c above in the next area of the flap until it is completely separated. Note: Some envelopes may require numerous applications of steam and increased exposure time (up to ~10 minutes at a time to the point of visible dampness, do not allow the envelope to become saturated). Use extra caution to avoid tearing.

5. Collect a sample from the adhesive area of both surfaces using one or two swabs.
   a. No Suspect/Suspect (no arrest): Send what was collected to DNA.
   b. Suspect (arrested): Send what was collected to DNA (consumption issue).

6. If unable to separate the flap from the envelope, collect a cutting along the adhesive area of the flap, measuring approximately 4cm x 1cm in size. This cutting should include both the flap and envelope layers.
   No Suspect/Suspect (no arrest)/Suspect (arrested): Send half of the cutting to DNA.

G. To remove a stamp from an envelope or postcard repeat steps B-F above.
   1. Collect a sample from the adhesive area of both surfaces using one swab.
   2. If unable to separate the stamp from the envelope, collect the stamp by cutting through the envelope layer. Don't send to DNA initially but retain.

H. Record the lot # of the dH_2O used to collect the sample(s) and also the dH_2O used for steaming, when necessary, on the appropriate Quality Record worksheet (Appendix 1).

3.4.9 Bottles/Cans

A. If there is a designated latent print area, please follow the instructions in 3.4.2 (Evidence Previously Examined by the Latent Print Unit).

B. Collect a sample from the exterior mouth opening and interior cap (if present) using two swabs.
   1. No Suspect/Suspect (no arrest): Send what was collected to DNA.
   2. Suspect (arrested): Send what was collected to DNA (consumption issue).

C. If requested or necessary, collect a sample from the exterior body area of the bottle or can using two swabs.
   1. No Suspect/Suspect (no arrest): Send what was collected to DNA.
   2. Suspect (arrested): Send what was collected to DNA (consumption issue).

D. If multiple bottles/cans are submitted for one case, then collect samples from only the mouth and cap area of each bottle/can (individually).

3.4.10 Swabs - Bloodstains (positive screening test(s) and/or positive identification test(s))

A. Heavy bloodstain swab(s):
No Suspect/Suspect (no arrest)/Suspect (arrested): Send half of one swab to DNA.

B. Light/dilute bloodstain swab(s):
   1. No Suspect/Suspect (no arrest): Send a minimum of one swab to DNA.
   2. Suspect (arrested): Send a minimum of one swab to DNA, if entire sample is sent, (consumption issue).

C. If the case scenario indicates that a sample collected by the submitting agency was previously treated with a field test, then send the swab directly to DNA without serological testing.

Note in LIMS/on transfer sheet the agency field test result(s).

3.4.11 Swabs - Semen

For additional information on combined testing of swabs, see 1.5.4.N in FB SOP-01 (Physical Evidence Examination) and 2.5.4.2 in SOP-02 (Sexual Assault Evidence Collection Kit Examination).

A. If 2+/3+/4+ sperm
   1. No Suspect/Suspect (no arrest): Send a total of one swab to DNA by combining a portion from each swab.
      If one swab or less remains, send the swab or remaining portion to DNA.
   2. Suspect (arrested): If more than one swab remains, send a total of one swab to DNA.
      If one swab or less remains, send the swab or remaining portion to DNA (consumption issue).

B. If 1+ sperm/(1) sperm (head portion or intact) or (+) p30
   1. No Suspect/Suspect (no arrest): Send up to a total of three swabs to DNA by combining a portion from each swab.
      If one swab or less remains, send the swab or remaining portion to DNA.

2. Suspect (arrested): If more than three swabs remain, send a total of three swabs to DNA.
   If three or less swabs remain, send up to a total of three swabs to DNA (consumption issue).
   If one swab or less remains, send the swab or remaining portion to DNA (consumption issue).

3.4.12 Swabs - Amylase

For additional information on combined testing of swabs, see 1.5.4.N in FB SOP-01 (Physical Evidence Examination) and 2.5.4.2 in SOP-02 (Sexual Assault Evidence Collection Kit Examination).

A. If strong (+) Amylase:
   1. No Suspect/Suspect (no arrest): Send a total of one swab to DNA by combining a portion from each swab.
      If one swab or less remains, send the swab or remaining portion to DNA.
   2. Suspect (arrested): If more than one swab remains, send a total of one swab to DNA.
      If one swab or less remains, send the swab or remaining portion to DNA (consumption issue).

B. If (+)/weak (+)/very weak (+) Amylase:
   1. No Suspect/Suspect (no arrest): Send up to a total of three swabs to DNA by combining a portion from each swab.
      If one swab or less remains, send the swab or remaining portion to DNA.
   2. Suspect (arrested): If more than three swabs remain, send a total of three swabs to DNA.
      If three or less swabs remain, send up to a total of three swabs to DNA (consumption issue).
      If one swab or less remains, send the swab or remaining portion to DNA (consumption issue).

3.4.13 Condoms

For additional information on combined testing of swabs, see 1.5.4.N in FB SOP-01 (Physical Evidence Examination) and 2.5.4.2 in SOP-02 (Sexual Assault Evidence Collection Kit Examination).

A. If the interior or exterior is positive for AP, collect a sample from the interior and/or exterior (separately) using four swabs each. If visible material (strong positive AP) remains on the interior or exterior of the condom then the examiner may collect more than four swabs.
   1. If 2+/3+/4+ sperm
      No Suspect/Suspect (no arrest)/Suspect (arrested): Send a total of one swab to DNA by combining a portion from each swab.

2. If 1+ sperm/(1) sperm (head portion or intact) or (+) p30
   a. No Suspect/Suspect (no arrest)/Suspect (arrested): Send a total of three swabs to DNA by combining a portion from each swab.
   b. Note: Evaluate test results to determine if there may be a consumption issue.

3. If (-) semen
   a. No Suspect/Suspect (no arrest): Send a total of three swabs to DNA by combining a portion from each swab.
   b. Suspect (arrested): Send a total of three swabs to DNA (consumption issue).

B. If the interior or exterior is negative for AP, collect a separate sample from each using two swabs.
   1. No Suspect/Suspect (no arrest): Send what was collected to DNA.
   2. Suspect (arrested): Send what was collected to DNA (consumption issue).

3.4.14 Fingernail Samples

See 2.5.5 in FB SOP-02 (Sexual Assault Evidence Collection Kit Examination) and FB SOP-27 (Fingernail Sample Examination).

3.4.15 Smears - Coverslip Removal/Sample Collection

For smear(s) stained with Sperm Hy-Liter, use acetone to remove the nail polish from the cover slip by placing acetone on a swab and rubbing off the nail polish.

A. Photograph the slide as received.

B. Conduct a microscopical examination of the smear for cellular material. It is not necessary to search the entire smear.
   1. Record the result and microscope(s) used on the appropriate quality record worksheet.
   2. If an intact spermatozoa is identified, a second FB analyst will confirm this identification, when necessary, and initial the appropriate quality record worksheet.

C. Place the slide in the freezer for five (5) to fifteen (15) minutes.

D. Remove the slide and allow to thaw, preferably at 37°C.

E. While wearing eye protection, use a clean blade under one (1) edge of the cover slip and gently pry it off the slide. Use caution since the coverslip may break into pieces when removing.

F. If needed, repeat the freeze-thaw cycle to aid in the removal of the cover slip.

G. Once the cover slip is removed, use one (1) or two (2) sterile swabs (plastic handles) moistened with dH_2O to collect the smear off of the slide. Additional swabs may be used to collect any remaining smear.

H. If unable to swab the smear off the slide, the smear can be removed by scraping it from the slide. Use a clean blade and collect the scrapings with sterile swabs moistened with dH_2O.

I. Photograph the slide after the smear has been collected.

3.4.16 Firearms

General

A. Blood-like staining:

1. If blood-like staining has been documented on the firearm by the Submitting Agency and there is a Latent Print request, then the firearm will go to the Forensic Biology Unit first.

    a. If ridge-like-detail is observed in the blood-like staining by the Forensic Biology Unit, then the Latent Print Unit Lead will be contacted to determine if serological testing can be conducted prior to being processed by the Latent Print Unit.

    b. Once determined, it will be documented on the appropriate Forensic Biology Quality Record Worksheet(s), and initialed and dated by the Latent Print Lead (or designee).

2. If blood-like staining has not been documented on the firearm by the Submitting Agency and blood-like staining is observed by the Latent Print Unit, then a Forensic Biology Unit Lead will be contacted to determine if it should be forwarded to the Forensic Biology Unit prior to being processed by the Latent Print Unit.

    Once determined, it will be documented on the appropriate Latent Print Quality Record Worksheet(s), and initialed and dated by a Forensic Biology Lead (or designee).

B. Sample collection of firearm prior to Latent Print processing:

1. See section A below for photographing firearm(s) prior to collection.
2. Small areas and textured areas of the firearm can be swabbed prior to Latent Print processing. Small areas include, but are not limited to: sights, trigger, cylinder loading and latch areas, magazine release, slide catch/safety, hammer, bolt or lever (see photos below depicting these areas).

C. If a Latent Print area is designated on the firearm:
   1. See section A below for photographing firearm prior to collection.
   2. Collect a sample from the designated area, as necessary, using one swab. If there is more than one designated Latent Print area, then on a case-by-case basis, the areas may be collected separately using one swab each or collected as one sample simultaneously using 1 or 2 swabs.
      a. No Suspect/Suspect (no arrest): Send what was collected to DNA.
      b. Suspect (arrested): Send what was collected to DNA (consumption issue).

Note: If the firearm has been super glued, swab vigorously when collecting the sample to penetrate beneath the super glue layer.

Procedure

A. Photograph the firearm showing both sides of the frame and from various angles, if necessary, including manufacturer, model number and serial number:

B. Firearms: Lesser Crimes (illegal possession/shots fired/weapons charge/found gun)

The firearm is generally swabbed as one sample, with the exception of the trigger (and magazine if present), which are collected separately.

1. Handgun (pistol, revolver, etc.)
   a. Collect one sample from the firearm (except trigger) using two or three swabs.
      i. No Suspect/Suspect (no arrest): Send what was collected to DNA.
      ii. Suspect (arrested): Send what was collected to DNA (consumption issue).

   b. Collect a sample from the trigger separately using one swab and send if necessary.
      i. No Suspect/Suspect (no arrest): Send what was collected to DNA.
      ii. Suspect (arrested): Send what was collected to DNA (consumption issue).

   c. See section D below if the magazine is present.

2. Large gun/Long arm/Long gun (rifle, shotgun, etc.)
   a. Collect one sample from the stock/grip(s) (see photos below) using two or three swabs.
      i. No Suspect/Suspect (no arrest): Send what was collected to DNA.
      ii. Suspect (arrested): Send what was collected to DNA (consumption issue).

   b. Collect one sample from the forearm and remaining necessary areas (except trigger, see photos below).
      i. No Suspect/Suspect (no arrest): Send what was collected to DNA.
      ii. Suspect (arrested): Send what was collected to DNA (consumption issue).

   c. Collect a sample from the trigger separately using one swab and send if necessary.
      i. No Suspect/Suspect (no arrest): Send what was collected to DNA.
      ii. Suspect (arrested): Send what was collected to DNA (consumption issue).

   Note: A large gun/long arm/long gun may be swabbed as one sample.
   Collect one sample from the firearm (except trigger) using three swabs.
      i. No Suspect/Suspect (no arrest): Send what was collected to DNA.
      ii. Suspect (arrested): Send what was collected to DNA (consumption issue).

C. Firearms: Serious Crimes (homicides/suicides/assaults/shooting with injury/robbery)

Samples from the following areas are generally collected separately. Refer to the photos below for further guidance.

1. Handgun (pistol, revolver etc.):
   a. Collect a sample from each area using one or two swabs. Send the sample(s) from the appropriate area(s) to DNA according to the case scenario.
      i. No Suspect/Suspect (no arrest): Send what was collected to DNA.
      ii. Suspect (arrested): Send what was collected to DNA (consumption issue).

   b. Areas (see photos below):
      i. Trigger
      ii. Grip (handle or pistol grip), including magazine release (for pistols)
      iii. Action mechanisms
         1) Slide including sights, slide catch/safety and hammer (for pistols)
         2) Cylinder including loading area, latch area, hammer and sights (for revolvers)

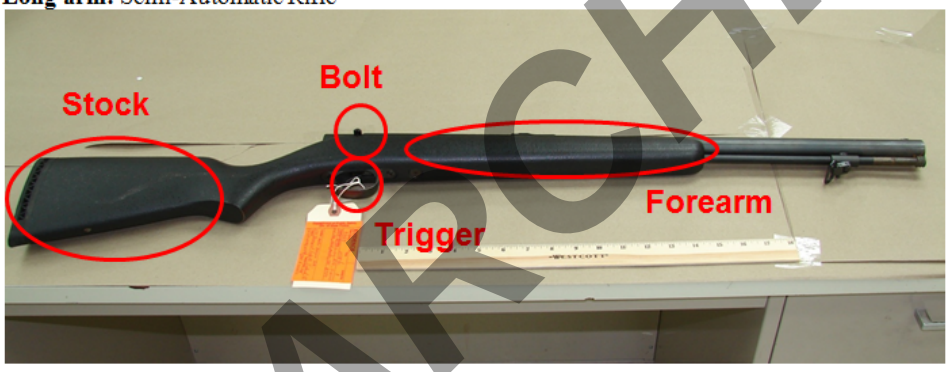
Handgun: Revolver

Handgun: Semi-Automatic Pistol

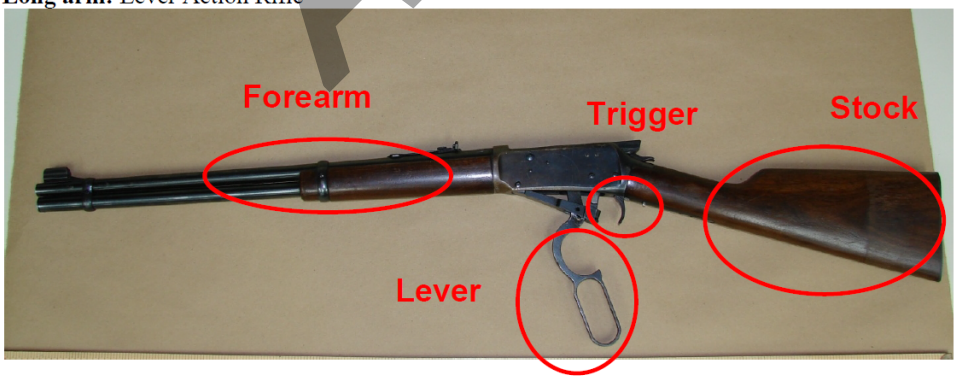
2. Large gun/Long arm/Long gun (rifle, shotgun etc.):
   a. Collect a sample from each area using one or two swabs. Send the sample(s) from the appropriate area(s) to DNA according to the case scenario.
      i. No Suspect/Suspect (no arrest): Send what was collected to DNA.
      ii. Suspect (arrested): Send what was collected to DNA (consumption issue).

   b. Areas (see photos below):
      i. Trigger
      ii. Stock
      iii. Grip(s)
      iv. Forearm
      v. Action mechanisms
         1) Bolt (for semi-automatic rifles)
         2) Lever (for lever action rifles)
         3) Hammer or magazine spring loader (for shotguns)
      vi. Depending on the location of the safety, collect it in addition to the nearest grip, forearm or action mechanism (not including the trigger).

Long arm: Semi-Automatic Rifle

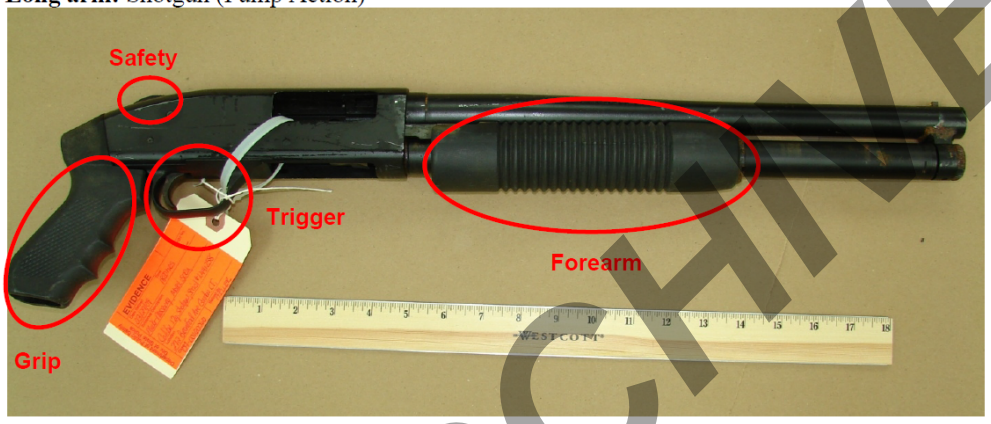


Long arm: Lever Action Rifle

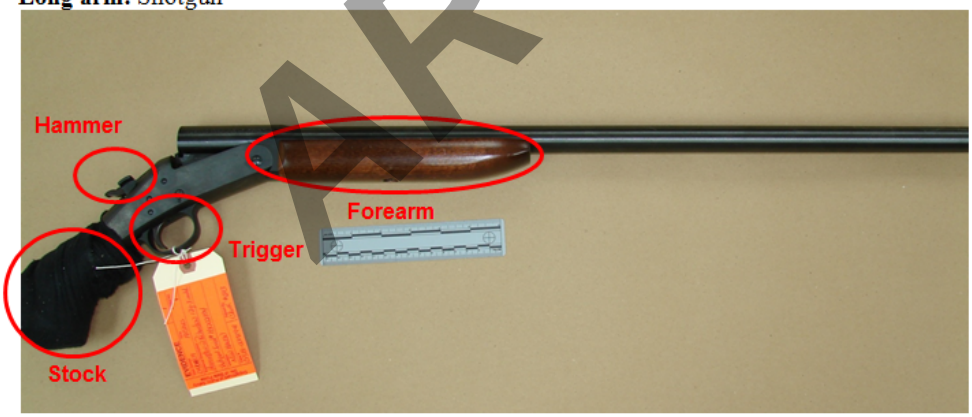


Long arm: Semi-Automatic Rifle

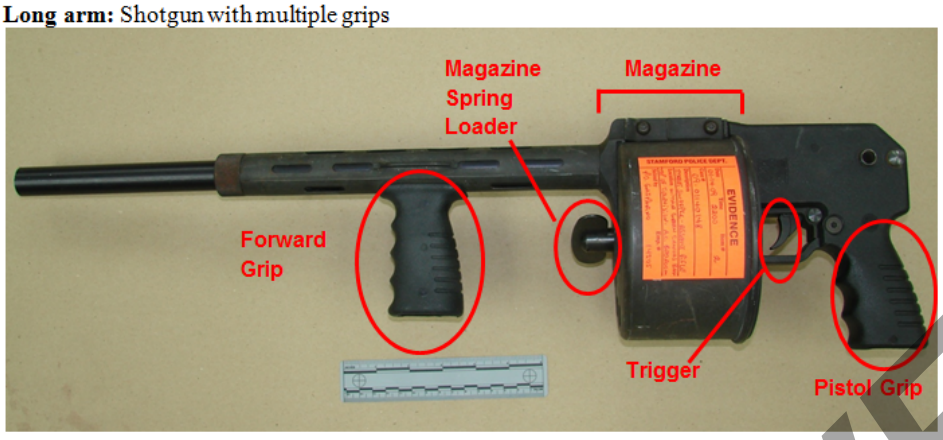
Long arm: Shotgun (Pump Action)



Long arm: Shotgun



Long arm: Shotgun with multiple grips



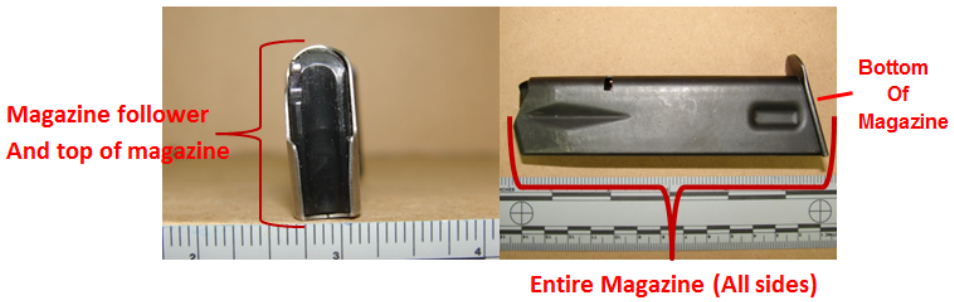
D. Magazines:

1. If the magazine is processed for Latent Prints prior to DNA sample collection, or there is no Latent Print request, then swab the entire magazine.

   Collect a sample using two swabs and send if necessary.
   a. No Suspect/Suspect (no arrest): Send what was collected to DNA.
   b. Suspect (arrested): Send what was collected to DNA (consumption issue).

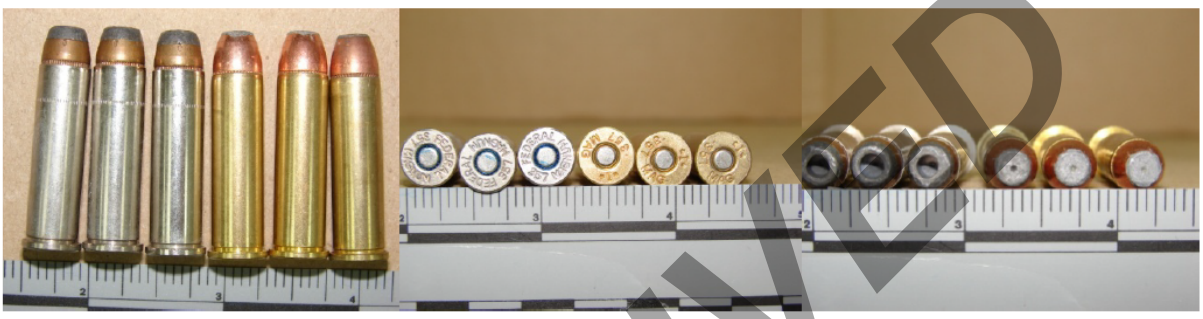
2. If the DNA sample is collected before Latent Print processing, then swab the magazine follower and top of the magazine only. If the bottom of the magazine is textured, then that can be included as well.
   After Latent Print processing, a DNA sample can be collected from the remainder of the magazine.

   Collect a sample using one or two swabs and send if necessary.
   a. No Suspect/Suspect (no arrest): Send what was collected to DNA.
   b. Suspect (arrested): Send what was collected to DNA (consumption issue).



E. Cartridges/Cartridge Casings and Bullets/Projectiles:

1. Cartridges/cartridge casings and bullets/projectiles can be photographed from all sides as shown below. The caliber and manufacturer head stamp information of cartridges and cartridge casings can be depicted in a photograph or recorded by written documentation.



Below are examples of Bullets/Projectiles (fired and unfired) and Cartridge cases/casings.

Bullets/projectiles

cartridge cases/casings

2. Unfired Cartridges:

Collect a sample from all exterior surfaces using one swab. If multiple cartridges are submitted, then collect one sample from all exterior surfaces of the cartridges using one or more swabs, but no more than three.

a. No Suspect/Suspect (no arrest): Send what was collected to DNA.
b. Suspect (arrested): Send what was collected to DNA (consumption issue).

3. Fired Cartridge Casings:

A sample is not collected unless requested and the request indicates that an individual may have handled the fired cartridge casing.

When appropriate, collect a sample from all exterior surfaces using one swab. If multiple cartridge casings are submitted, then collect one sample from all exterior surfaces of the cartridge casings using one or more swabs, but no more than three. Take care not to alter/mar the head stamp area.

a. No Suspect/Suspect (no arrest): Send what was collected to DNA.
b. Suspect (arrested): Send what was collected to DNA (consumption issue).

4. Fired bullets/projectiles:

A sample is not collected unless requested. Send to DNA if necessary.

When appropriate, collect a sample from all surfaces using one swab taking care not to alter/mar the surfaces. The use of metal forceps should be avoided.

a. No Suspect/Suspect (no arrest): Send what was collected to DNA.
b. Suspect (arrested): Send what was collected to DNA (consumption issue).

3.5 REFERENCES

A. GL-2 (Safety Manual)
B. GL-4 (LIMS)
C. GL-13 (General Evidence Handling)
D. DNA SOP-1 General Procedures, Unit 1.1.9