TITLE: Physical Match Examination

A. PURPOSE: To define a method by which to determine if a physical match may be present between two items. This determination may include the examination of fractured areas, ripped areas, torn areas, cut areas or broken areas of evidence

B. **RESPONSIBILITY:**

Forensic Science Examiner who has successfully completed physical match training is accordance with the Trace Section Training Manual (SOP-TR-01)

The Examiner confirming the physical match may be a supervisor, director or their designee.

The Director or Supervisor may act as the co-signor of a report, which includes a physical match determination.

C. SAFETY:

The appropriate measures for the proper handling of biohazard materials, sharps instruments and chemicals will be used according to the Connecticut State Forensic Science Laboratory Safety Manual.

D. PROCEDURE: Set up

1. The examiner will use his / her discretion to assess the probative value of the evidence; as well as, determine the types and extent of the examinations conducted.
2. If at any time during the examination of two items, the examiner determines a significant difference, no further examinations will be conducted and items, it will be reported that two items did not physically match together.

E. PROCEDURE: Documentation

1. The evidence will be documented. See (SOP-TR-05) Evidence Documentation.
2. Evidence for physical match examination in the Trace Section will be documented on the appropriate Quality Record Worksheet. The required information will be recorded. This worksheet(s) will remain in the case jacket.
3. The examiner may photo document physical match- type evidence examinations.

F. PROCEDURE: Collection

1. At least two items will be examined or submitted to the Laboratory for physical match examination.

2. Evidence to be examined for physical match may be transferred from other sections of the Laboratory to the Trace Section for further examination.

3. Various forms of material, including but not limited to, glass, plastic, metal, wood, paint chips, polymeric material and paper are suitable for physical match examination. The Trace Examiner will assess of the value of other forms of material for their suitability of physical match examination.

G. PROCEDRUE: Analysis and Comparison

1. Topical debris, which is adhering to the evidence, may be removed prior to analysis.
2. The Trace Examiner will examine items of evidence and use their training and experience via the following scheme to determine if two items are consistent with once having been one continuous piece. One or both of the techniques may be used.
   a. Macroscopic side-by-side examination
   b. Microscopic side-by-side examination.
3. If an examiner determines that two samples are a physical match, thus the two items were once one continuous piece, the Trace Examiner will consult a second examiner to confirm the physical match. The second examiner will initial the appropriate Quality Record Worksheet to indicate that they agree with the determination of physical match.
4. If the second examiner does not agree that a physical match is present, then a third examiner will be consulted or no physical match will be reported.
5. If a physical match is determined and confirmed by a second examiner, no further examinations of the evidence may be necessary.
6. If additional examinations are necessary, the Trace Examiner will consult the appropriate Procedure (SOP).
7. In the event that the physical match is made at an off-site from the laboratory, photographs with a scale will be taken. These photographs will be given to the second examiner for confirmation of the physical match.

H. PROCEDURE: Storage

1. The Trace Examiner will determine the appropriate method storage based on the type of evidence submitted. Paper folds, paper, plastic, boxes or glass microscopes may be used for long-term storage of the evidence. A variation of the previously listed methods may be used.
2. Retained evidence from a case will be placed in a sealed envelope with the examiner's initials across the seal and stored in the appropriate long-term storage area.

I. PROCEDURE: Report Writing

1. The examiner will draft a report which includes the results of their examination.
2. The examiner will use their training and experience to draft a report, which reflects the results obtained on a case-by-case basis.

   Typical statements used when writing a report may include:

   * Submission #1 (piece of plastic) physically fit to submission #2 (piece of plastic). Thus, these two items were once one continuous piece.

   * Submission #1 consisted of a piece of plastic.

   Submission #1 could not physically fit to submission #3 (piece of plastic).

   *Based on the condition of the evidence no determination as to physical match can be made.

   The examiner will consult with the co-signer to draft a report, which best reflects the results obtained.