Polyethylene Film Product Examinations

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1 INTRODUCTION

This procedure is intended to be utilized by trained personnel to ensure consistency and transparency of methods employed during the examination of polyethylene film product evidence received in the Questioned Documents Unit (QDU).

2 SCOPE

These procedures will be used by a forensic examiner who is qualified in the nondestructive examination of polyethylene film products. Polyethylene film is usually in the form of plastic bags but may also come in the form of a variety of other plastic products.

Redacted

3 EQUIPMENT

- 150-watt tungsten halogen light, or comparable equipment
- 30-watt transmitted light box, or comparable equipment
- Hand magnifier (minimum magnification, 4X)
- Stereomicroscope (minimum magnification, 6.3X), or comparable equipment
- Foster and Freeman Video Spectral Comparator (VSC), or comparable equipment
- Ruler marked in a minimum of 1 millimeter and/or 1/16 inch increments
- 3M Glare-Stop polarizing filters of various sizes (usually between 6” and 18”), or equivalent

4 PROCEDURE

- The following procedures will be performed when applicable.
- The procedures need not be performed in the order given.

4.1 Observations

A. Make a record of the polyethylene film.
   - This is usually done by freehand sketching.

B. Visually evaluate the polyethylene film evidence, to the extent possible, to determine general class characteristics.

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   - A ruler will be used to obtain measurements.

Redacted

4.2 Comparisons

A. If an evidential item does not correspond to another evidential item in general class characteristics, Redacted no side-by-side comparison is necessary.
   - Report that the items were not manufactured from a common source or did not originate from a common source.

B. If two or more evidential items correspond in general class characteristics, compare items for common manufacturing characteristics Redacted

C. If two or more evidential items correspond in general class characteristics but do not correspond in manufacturing characteristics, report that the items were not manufactured from a common source Redacted items, however, correspond in general class characteristics.

D. If two or more evidential items correspond in both general class characteristics and manufacturing characteristics, examine the items for individualizing characteristics Redacted

E. Visually analyze and conduct a side-by-side comparison of the polyethylene items using a transparent light source, polarizing filters (if necessary), and/or the VSC.
   - If two or more evidential items correspond in both general class characteristics and all, or the majority of, manufacturing characteristics, but

do not correspond in individualizing characteristics, Redacted

However, the items correspond in general class characteristics and manufacturing characteristics.

- Redacted

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- If two or more items correspond in general class characteristics and possible manufacturing characteristics, but there are significant limiting factors, an inconclusive result is appropriate.
- If two or more evidential items correspond in both general class characteristics and manufacturing characteristics, but lack observable individualizing characteristics, report that the items correspond in general class characteristics and manufacturing characteristics. Redacted

Redacted

Redacted

4.4 Records

- The following records, if created, will be included and maintained in the examination notes:
    - Printouts
    - Photographs
    - Overlays
    - Drawings
    - Other notations that support the conclusions derived

5 LIMITATIONS

- The following factors could affect the examination process and/or the results rendered:
    - Redacted
    - Limited quantity of questioned and/or known items
    - Prior destructive forensic examinations such as latent print processing
    - Lack of sufficiently suitable characteristics for comparison

6 SAFETY

Standard precautions should be followed for the handling of chemical and biological materials. Chemical and biological materials that are hazardous or potentially hazardous will be maintained and examined in specifically designated areas within QDU space. QDU personnel may refer to the FBI Laboratory Safety Manual for additional guidance.

7 REVISION HISTORY

Revision	Issued	Changes
Redacted		