BLOODSTAIN PATTERN DOCUMENTATION WORKSHOP

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Multi-Disciplinary Reconstruction of Crime Scenes: Documentation of the Bloodstain Pattern Evidence.

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Crime scene reconstruction using the bloodstain pattern evidence at the scene and on the clothing of the crime participants in addition with the other forensic evidence findings (i.e. Medical Examiner's findings) can be very important in criminal investigations.

The proper use and presentation of bloodstain pattern evidence is dependent upon complete documentation of the bloodstain patterns. Documentation of the bloodstain pattern evidence can be divided into five elements: team work, work notes, photographic records, drawings and serologic analysis. The five elements of documentation will be discussed, with an emphasis on documentation procedures and the photographic record.

Also discussed is the evaluation of the findings from other forensic examinations and the importance of these findings in the reconstruction process.

Bloodstain Pattern Evidence, Crime Scene Reconstruction, Criminal Investigations

DOCUMENTATION OF BLOODSTAIN PATTERN EVIDENCE

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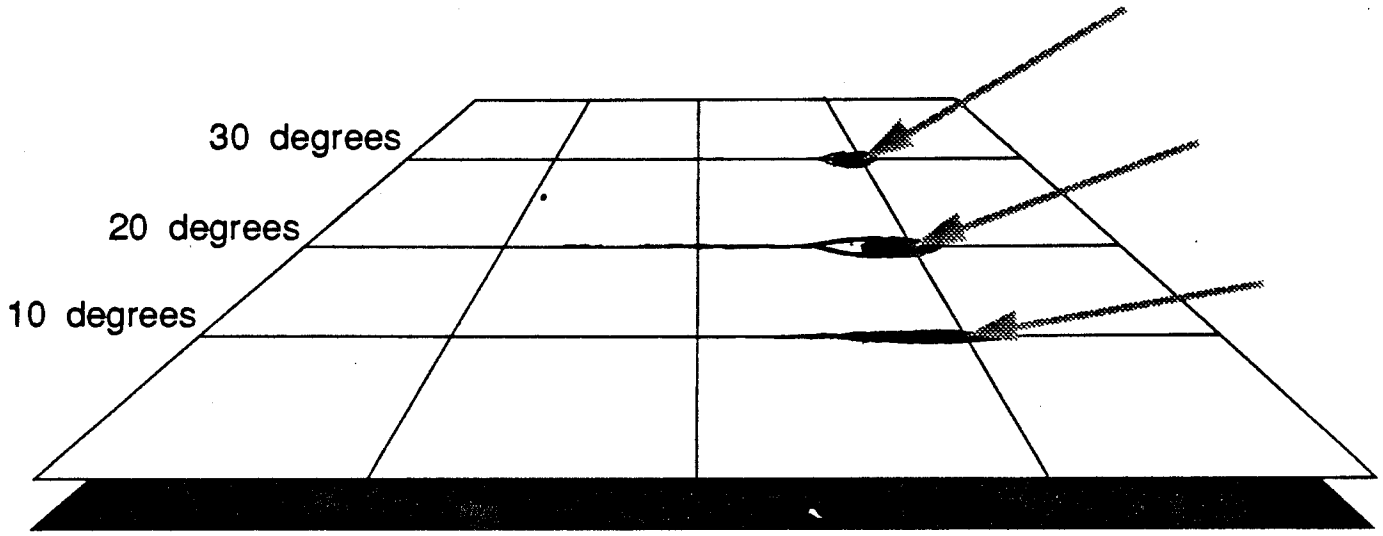
I) Reconstruction of bloodstain patterns.

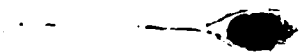
- A) Determining the direction of travel.
- B) Finding the point of convergence.
- C) Determining the angle of impact.
- D) Determining the point of origin.

II) Documentation of bloodstain patterns.

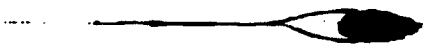
- A) What needs must be met to produce a high quality product and why is this necessary.
- B) The bloodstain pattern documentation kit for use at crime scenes.
- C) Documentation procedures.
  - 1) Team work.
  - 2) Work sheets and notes.
  - 3) The photographic record (how to use the materials in the bloodstain pattern kit).
    - a) The importance of good photographs and how to produce them.
      - 1) All pictures are at 90° to the pattern.
      - 2) Proper lighting of the patterns.
      - 3) Accurate color representation.
    - b) Documentation prior to any analysis.
    - c) Documentation after placement of the scales.
      - 1) How to scale the scene for documentation of the patterns.
    - d) Documentation of the reconstruction.
      - 1) Prior to stringing.
      - 2) After stringing.
    - e) Documentation of bloodstain patterns on clothing and other surfaces.

III) How to use the camera equipment and set the lighting for documentation of the bloodstain patterns at the crime scene.



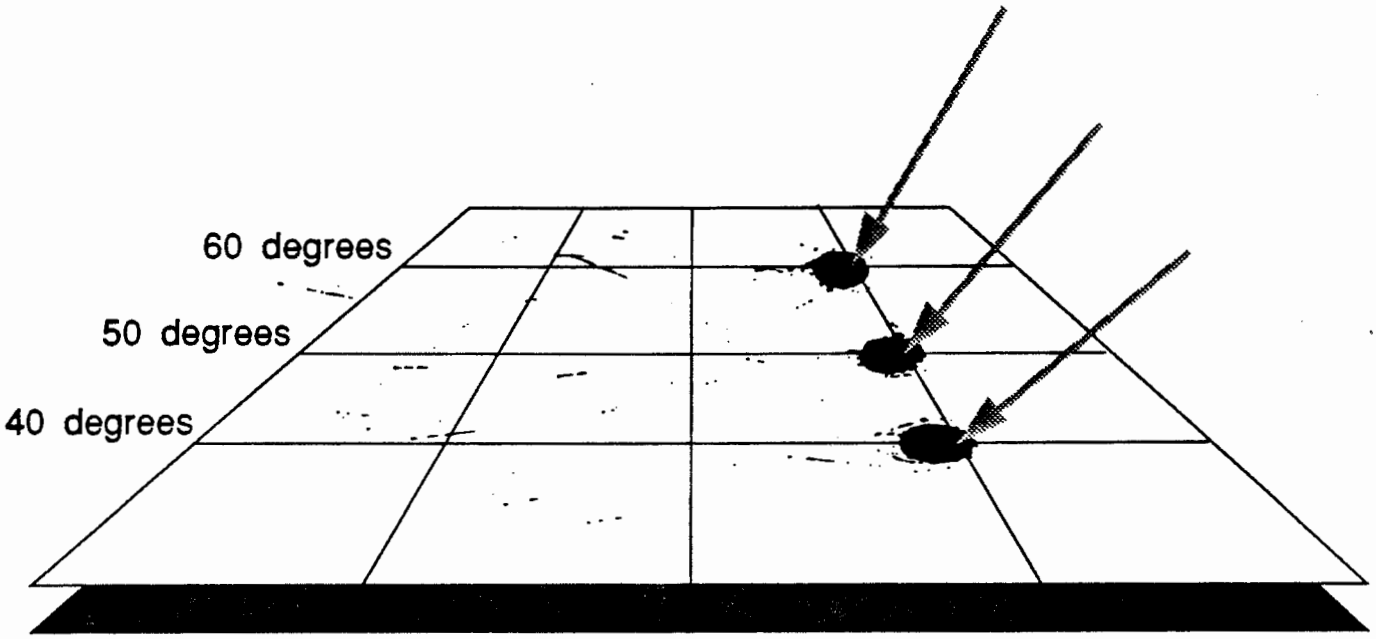


30 degrees



20 degrees

10 degrees

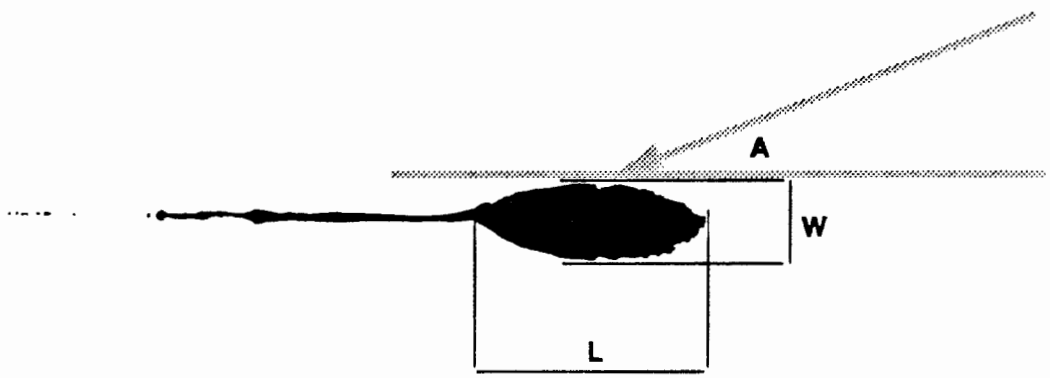


60 degrees

50 degrees

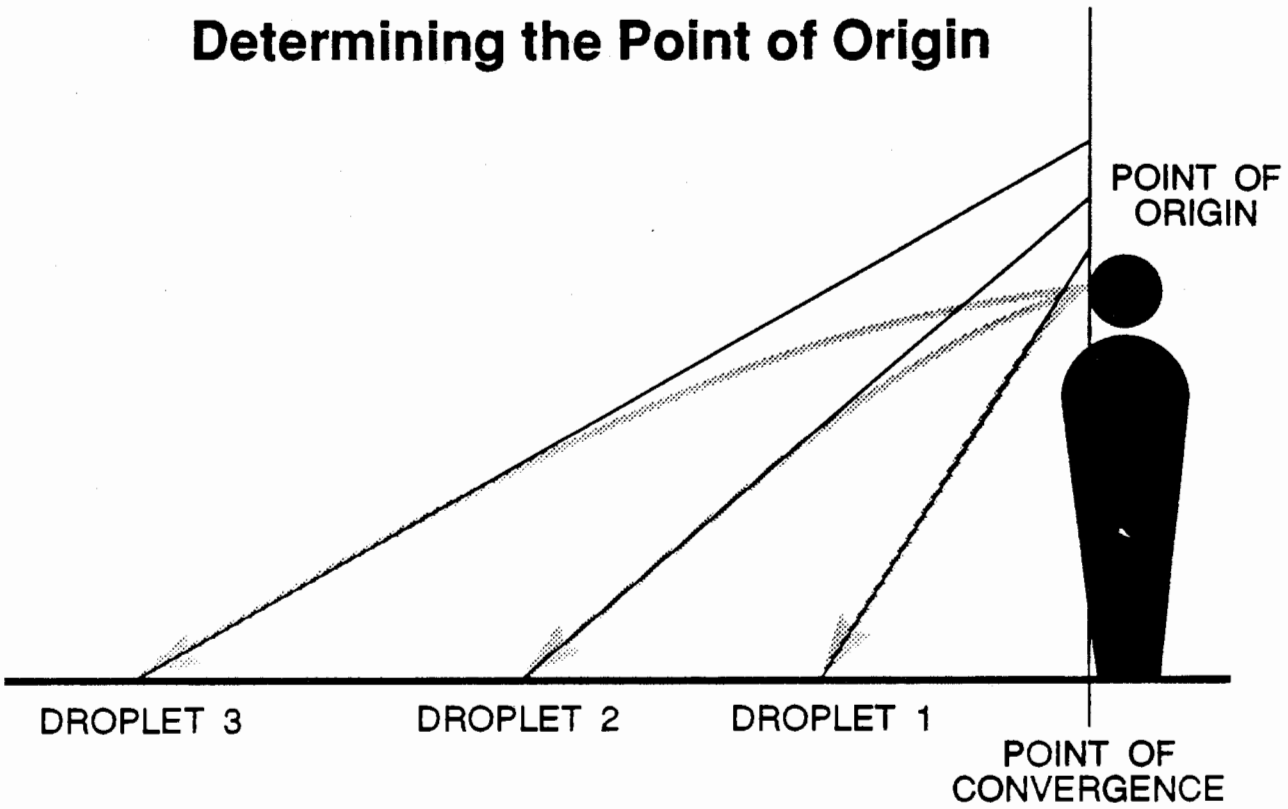
40 degrees

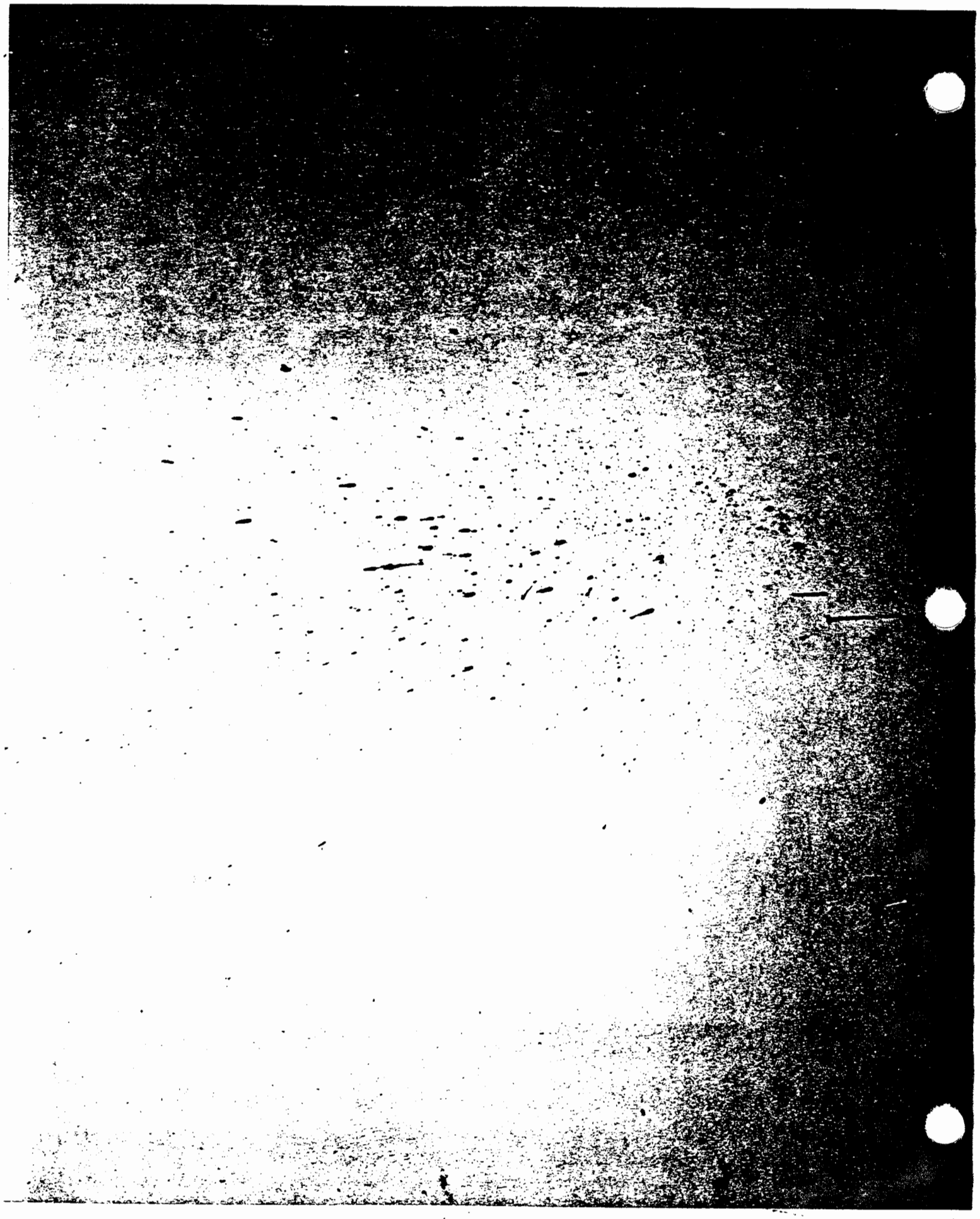
$$\text{ANGLE OF IMPACT (A)} = \text{ARC SIN} \frac{\text{DROPLET WIDTH (W)}}{\text{DROPLET LENGTH (L)}}$$



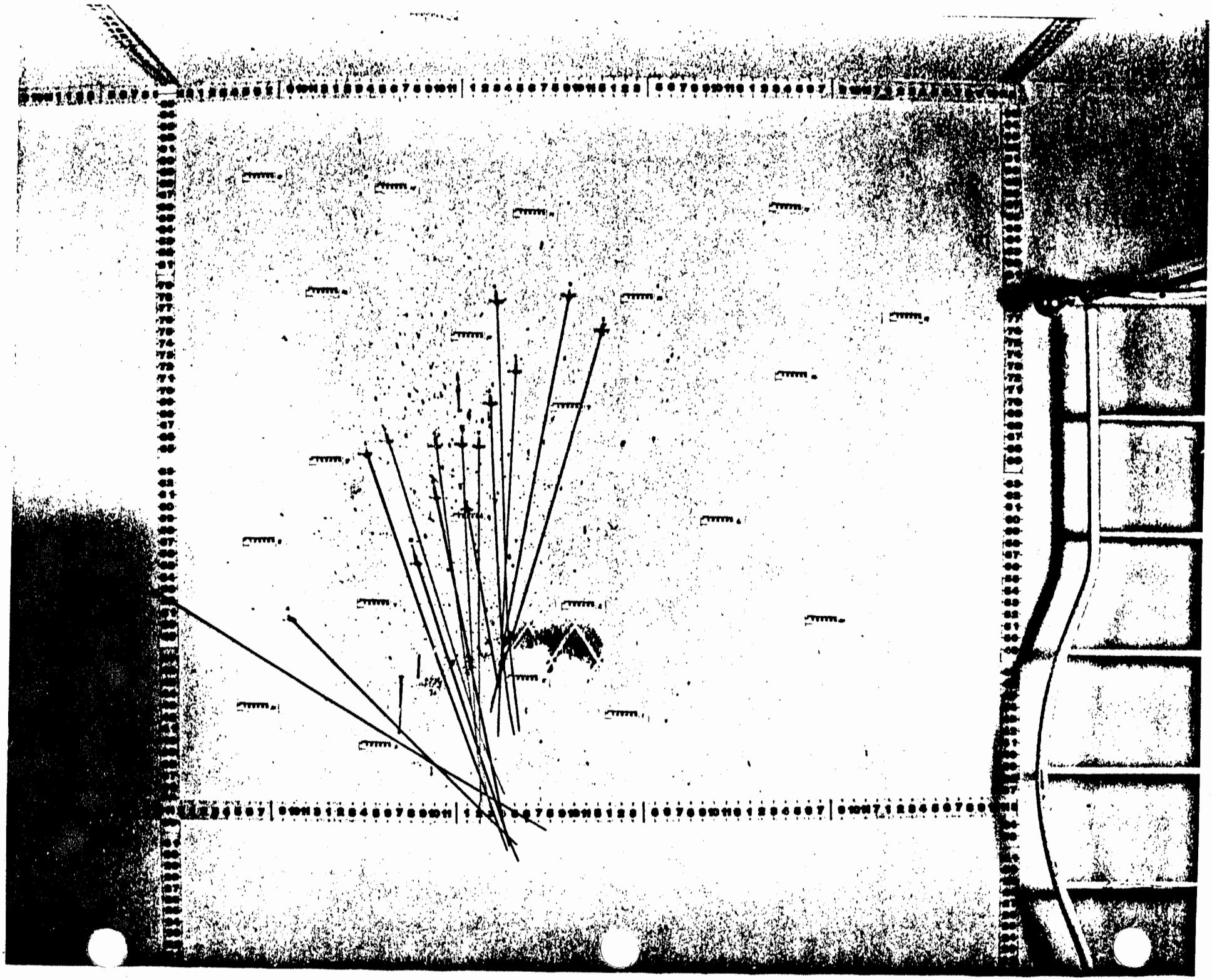
Determining the Angle of Impact of a Single Droplet

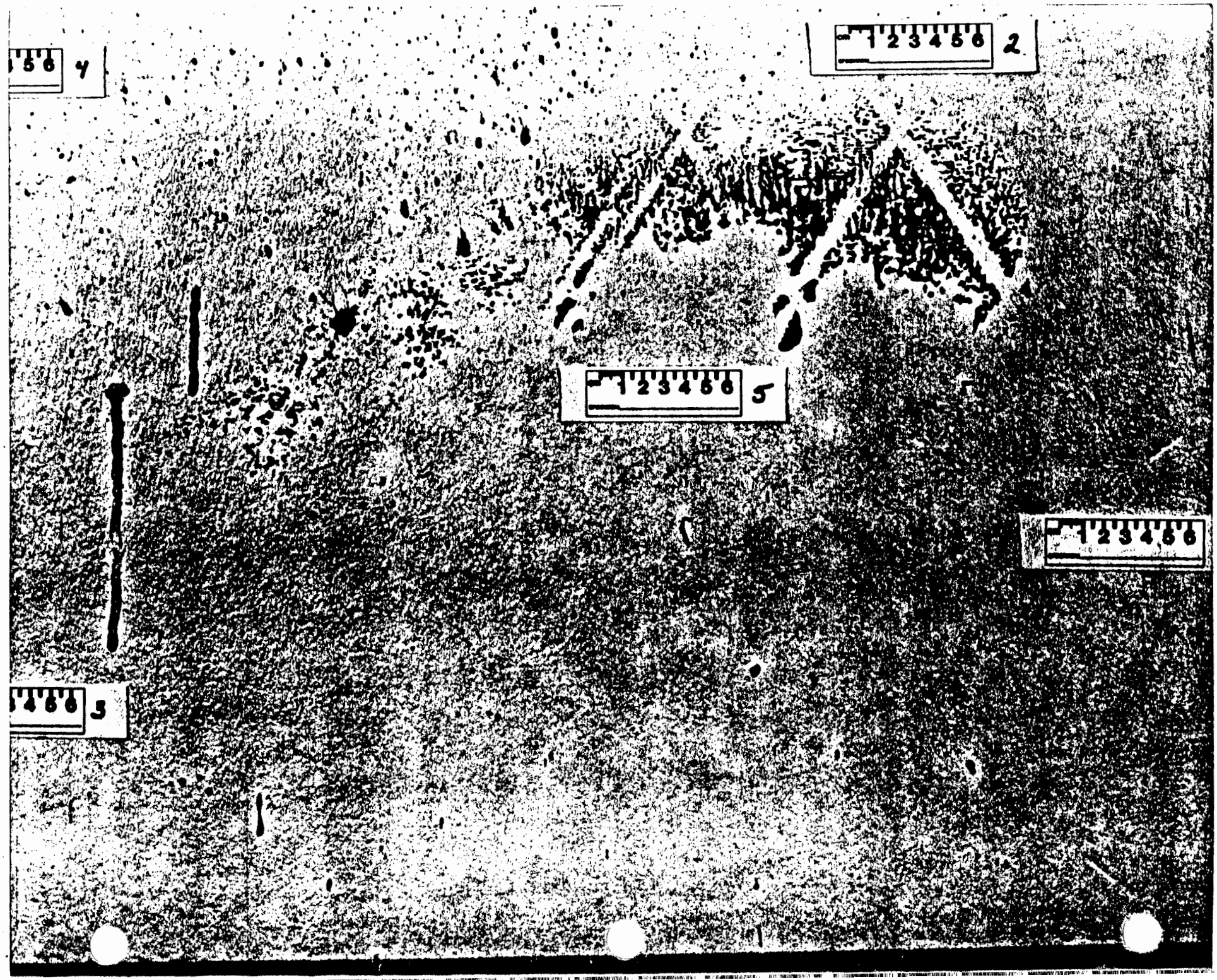
Determining the Point of Origin

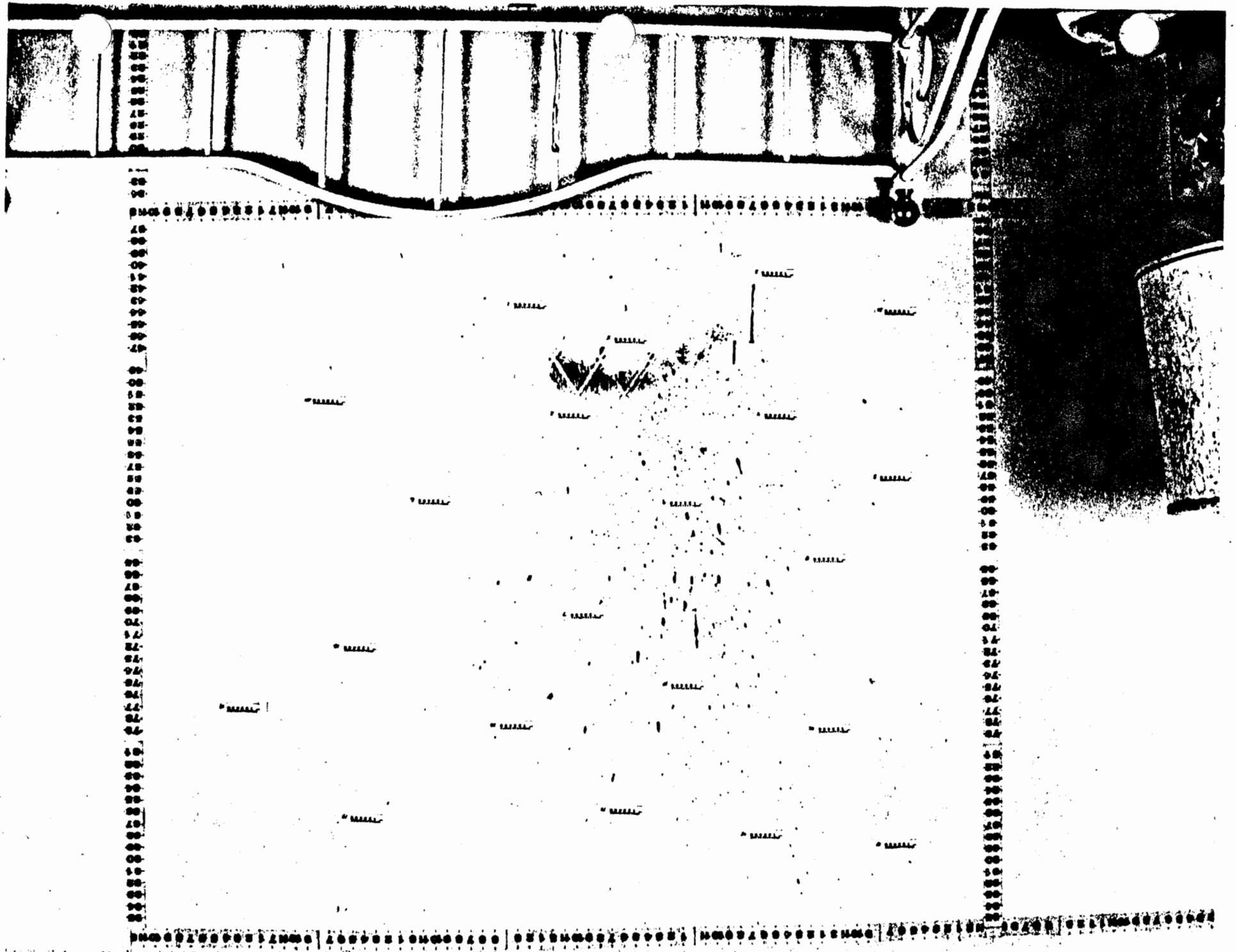


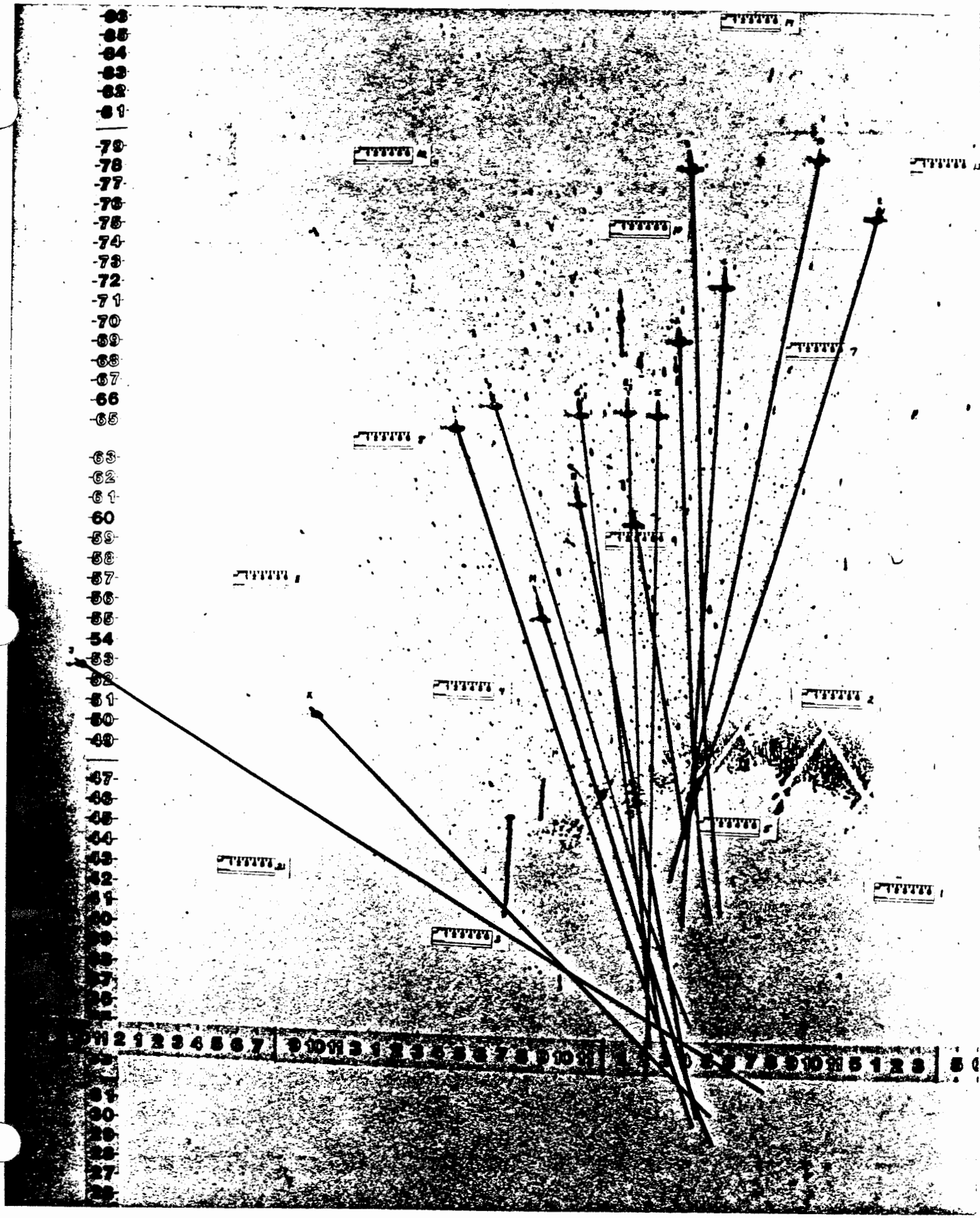


b
μm 2.3
μm 0.46
a




4
2
5
3





BLOODSTAIN PATTERN DOCUMENTATION WORKSHEET

DATE: ____/____/____

LOCATION: _____ M.D.P.D. CASE #: _____

_____ A.O.A. CASE #: _____

_____ ANALYST: _____

BLOODSTAIN PATTERN:				
CONVERGENCE LOCATION:				
ORIGIN LOCATION:				
STAIN	WIDTH	LENGTH	ANGLE	DISTANCE TO CONVERGENCE

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CONVERGENCE LOCATION:				
ORIGIN LOCATION:				
STAIN	WIDTH	LENGTH	ANGLE	DISTANCE TO CONVERGENCE