

# Laboratory Services Bureau

## LATENT PRINT SECTION



PROVIDING THE HIGHEST QUALITY FORENSIC SCIENCE SERVICES TO THE CITY OF PHOENIX

The Latent Print Comparative Section (LPCS) consists of Forensic Scientists and Laboratory Technicians. Several of our Forensic Scientists are Certified Latent Print Examiners. This certification is awarded by the International Association for Identification after an individual meets the requirements and successfully passes the testing process; there are approximately 1,000 CLPEs worldwide.



- ⇒ No two fingerprints have ever been found to be the same...even identical siblings have different fingerprints.
- ⇒ Friction ridge analysis has been proven to be a reliable means of identification for more than 100 years.
- ⇒ A person can touch an object or surface and NOT leave a print behind.

**AND...**

- ⇒ Our SOPS are based on OSAC and SWGFAST guidelines.
- ⇒ Many members of the LPCS have presented at local, regional and national conferences.
- ⇒ All of our conclusions are verified.

The **PRIMARY SERVICES** provided by the LPCS are:

### **AFIS—Automated Fingerprint Identification System**

Entry of unknown latent prints by electronically coding and launching them into the state (AZAFIS) and national (NGI) databases to uncover a potential match to a known individual. The system allows for identification of thousands of potential investigative leads annually.

#### ◇ Hits

- \* On-screen comparison of candidates provided by the AFIS results in one candidate being identified as the source of the latent print
- \* Manual confirmation using the candidate exemplar
- \* Tools used—magnifier and/or electronic software tools

#### ◇ Unsolved Database

- \* Latent prints that are entered into an AFIS and not identified during the initial launch remain in the system for a set amount of time, and are searched against new incoming records

### **Manual Comparisons**

Requests that latent print evidence be compared to a specific individual.

#### ◇ Process

- \* Retrieve exemplars (known fingerprint record)
- \* Determine if latent prints are of comparative value
- \* Use ACE-V methodology
- \* Conclusions: Identification, Exclusion, Inconclusive

### **Proving Priors**

Comparison of inked print on courts documents, linking an individual to previous arrest, charges, and/or convictions to assist with enhanced sentences for habitual offenders or charging an individual.

### **Court Testimony**

Latent print examiners provide testimony about our knowledge, skills and training; our analysis and the methodology we use; and our conclusions, which are based on the data we observe in the fingerprints. Our testimony is considered expert opinion testimony; it is up to the judge and jury to use that information to decide the outcome of a case.

### **Training**

The LPCS has one of the most intensive and comprehensive training programs in the country. The program lasts for 2-3 years and the modules include: History, Pattern Interpretation/Classification, ACE-V Methodology, Supervised Casework and Mock Trials. Trainees must pass competency exams prior to release to independent casework.

## THE BASICS

- \* **Friction ridge skin** is specialized skin found only on fingers, palms and soles of feet
- \* The three **fingerprint patterns** are Loop, Whorl and Arch



- \* A **latent print** is a replication of friction ridge skin that may be transferred to a surface when touched
- \* The **permanent and unique** arrangement of the ridges of a latent print allows them to be compared and identified to a source
- \* **Exemplars** or 'known prints' are prints intentionally recorded from a person whose identity is known; they are recorded via ink on paper or digitally with a Live Scan system
  - \* **10-Print Card**—rolled recording of each finger plus a simultaneous touch of the four fingers, and the thumb separately
  - \* **Major Case Prints**—record of all areas of friction ridge skin on the fingers and palms
- \* **Identification**—when an examiner concludes that a latent print and a known print came from the same source (individual)
- \* **Exclusion**—when an examiner concludes that a latent print and a known print came from different sources
- \* **Inconclusive**—when an examiner concludes there is not enough data available in the comparison of a latent print and a known print to conclude either identification or exclusion

## HOW WE COMPARE

### ACE-V

#### Analysis ~ Comparison ~ Evaluation ~ Verification

- ⇒ **Analysis**
  - ◇ Quality/quantity assessment of information present in latent print
  - ◇ Anatomical source, orientation, Level 1/ Level 2 / Level 3 details are observed
  - ◇ Substrate, development medium, preservation method, and distortional aspects are observed
  - ◇ Determination of comparative values is decided at this phase of ACE
- ⇒ **Comparison**
  - ◇ Comparing the details observed within the analysis phase to reach a conclusion
  - ◇ Side-by-side comparison of Level 1, Level 2 & Level 3 details is conducted from the unknown to the known print
  - ◇ Noting the consistent agreement and specificity of features and any differences
- ⇒ **Evaluation**
  - ◇ Judgments are made about the quality and quantity of the observed details in terms of their clarity and established tolerance levels.
  - ◇ Reaching a conclusion of Identification, Exclusion, or Inconclusive
- ⇒ **Verification**
  - ◇ Independent analysis/ review of the conclusion by another competent examiner
  - ◇ Serves to prove the conclusion is sound, and satisfies the repeatability step of the scientific method.

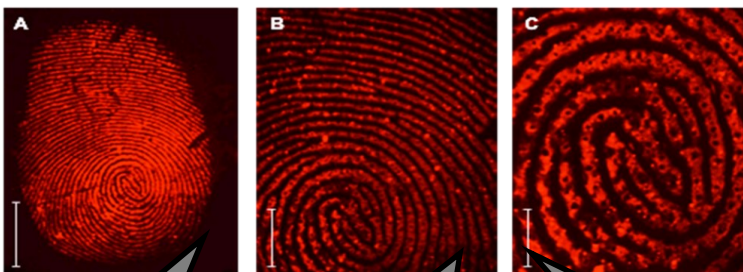
## THE LIMITATIONS of FINGERPRINTS

### They can:

- Tell us if a person touched an object/ surface; although not identifying a person to an object does not automatically exclude them from that object/surface
- Prove the identity of a person
- Tell us if a person is not the source of a specific fingerprint

### They cannot:

- Tell us *when* a person touched something
- Tell us if the object was used in a crime
- Tell us the age, gender or race of person leaving the print
- Tell us if a person was not at a crime scene



**1st Level Detail**  
Anatomic Source  
Pattern Type  
Ridge Flow  
Orientation

**2nd Level Detail**  
Unique ridge paths  
Details such as:  
Bifurcations  
Ridge Endings

**3rd Level Detail**  
Pores  
Ridge Shape  
Ridge Width

Laboratory Services Bureau  
Latent Print Section

