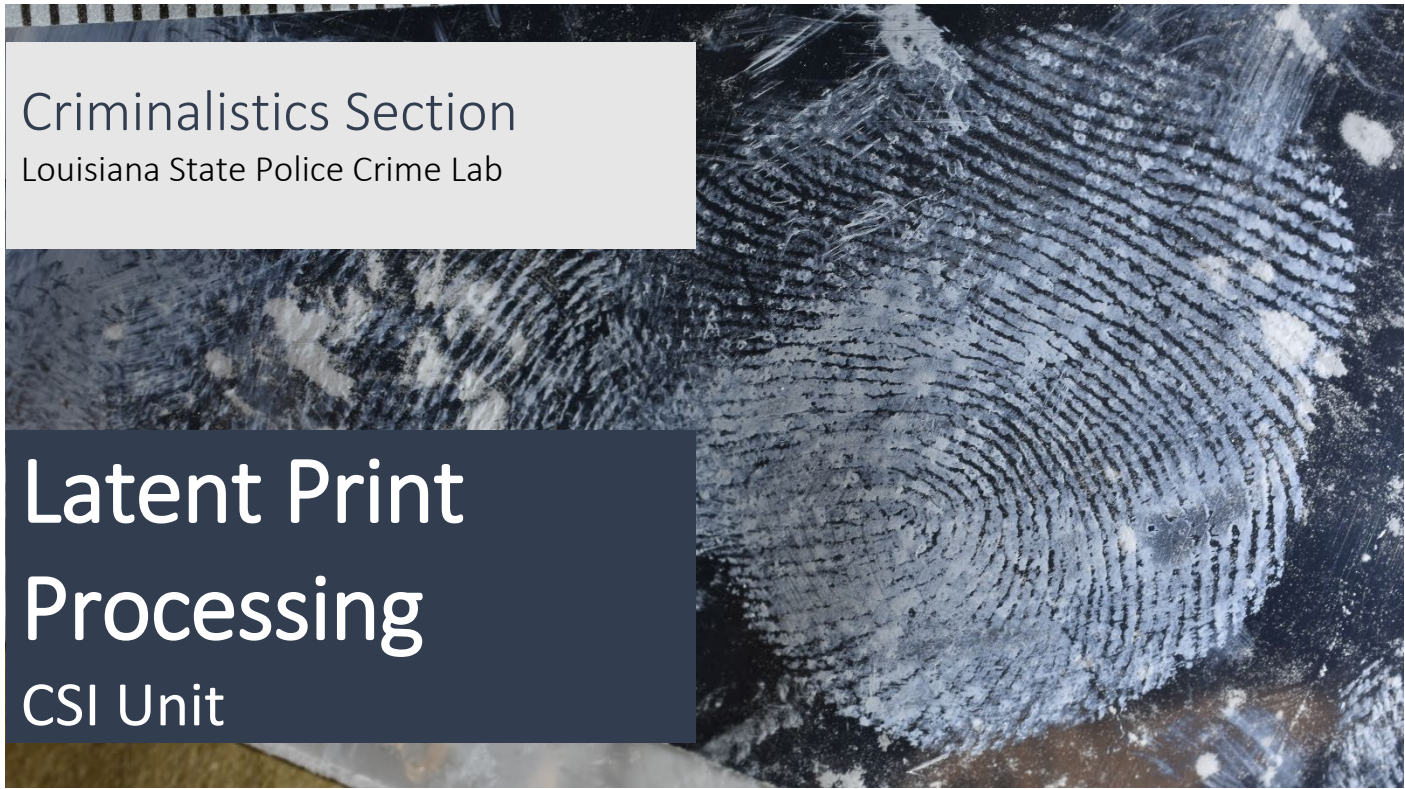




Criminalistics Section

Louisiana State Police Crime Lab

Latent Print Processing

CSI Unit

WHAT

The procedure of performing a series of specialized techniques through the use of physical and chemical reagents to aid in visualizing potential friction ridge impressions deposited by a person after touching a surface or holding an object.

HOW

Print Processing is performed by scene investigators and latent print processors who are trained and responsible for visualizing and identifying prints deposited on a surface of various items either at a crime scene or in the lab.

Friction ridge impressions are unique and persistent throughout a lifetime, absent an injury to the skin or upon decomposition after death. These impressions are chance impressions that can be left on a surface in the form of fingerprints, palm prints, or foot prints. When friction ridge skin comes into contact with a surface, an impression consisting of sweat, oils, sloughed skin, blood, makeup, or other contaminants can be left behind in the unique ridge pattern that can be identified to a specific source.

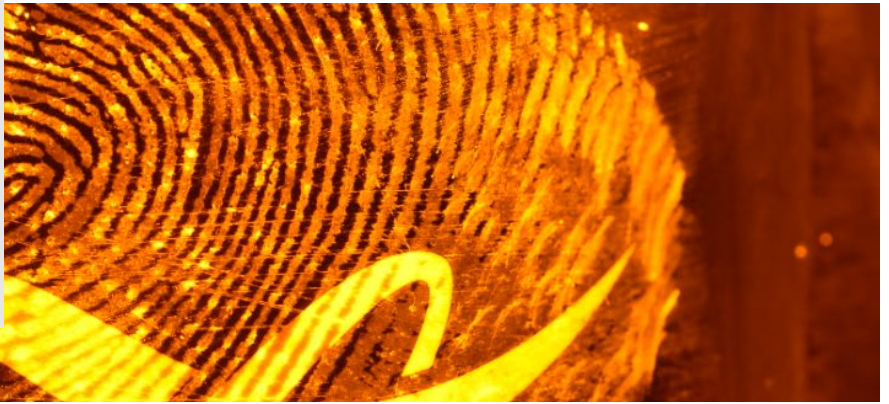
There are several factors involved in the deposition and development of friction ridge impressions that can affect the ability to visualize, recover, and compare prints, which include skin conditions, environmental factors, and the manner of handling and packaging of the evidence.

Items and surfaces are visually examined for prints before any physical or chemical reagents are used. Then, specific reagents are chosen to potentially further develop prints on the surface or object. The type of material and color of the surface/object and the suspected molecular makeup of the print plays a large role in which reagents are chosen for processing. Some reagents can be used in sequence with each other to maximize their effectiveness. If a print is ever visualized or developed, photographs and/or lifts of the print are taken to preserve the ridge detail for comparison.

WHY

The lab aids state and local law enforcement agencies in developing and capturing prints on objects and surfaces which can be potentially identified to an individual. This aids the investigation by showing who came into contact with a surface or object, possibly during the event of a crime.

Latent Print Processing



Staffing

Seven analysts are currently authorized to process items and surfaces for prints on scene and in the lab.

Case Load

Approximately 300 requests are conducted per year from external law enforcement agencies and generated from crime scene response by the lab's CSI Team. Average number of items submitted for print processing analysis is 1,750 a year. Many items processed for prints routinely involve additional analysis from other units in the laboratory, such as the DNA Unit, Firearms Unit, and Drug Unit.

Interesting Facts

Friction ridge impressions may be visible to the naked eye or may require various development and enhancement methods in order to be observed and collected. The three categories of friction ridge impressions are patent, latent, and plastic.

A patent impression is one where the ridge detail is partially or wholly visible to the unaided eye. Examples can include impressions in blood, paint, ink, mud, dust, and sometimes sweats and oils. A latent impression is one where the ridge detail is not visible to the unaided eye and requires additional processing to observe and collect ridge detail. A plastic impression is formed by the contact of friction ridge skin with a soft or pliable substance (e.g., wax, putty) that subsequently retains a three-dimensional image of the impression.

Occasionally, tapes and other adhesive items are submitted for processing. These adhesive surfaces have the potential to contain prints that would otherwise be lost. Additionally, because these prints are located on the adhesive side of the tape, they are then less likely to be destroyed through normal handling. If the tape is stuck to an item, methods involving isopropyl alcohol and freezing can be used to remove it from surfaces and process the adhesive side for prints.

Soot covered evidence from fire scenes may be submitted for processing. The use of commercially available products, including Absorene® and the Smoke/Soot Eraser, may be used to physically remove and reduce layers of soot from surfaces. The process may also improve the clarity of any prints which are covered in soot by selectively removing the soot which is not adhering to the fingerprint ridges.

