LATENT PRINT

QUALITY MANUAL

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Revision History

Revision #	Description of Changes
1	Separated Quality Procedures out from Analytical Methods; added: section 1.0 Introduction and section 3.0 Organization and Management. Updated camera models in 7.7.6, retitled section 8
2	Grammatical updates throughout; content changes in sections: 7.7.7, 9.5.2.1.1, 9.5.4.5.1, 9.5.4.6.4, 9.6.2, 9.7.2, 9.8, and 10.3
3	Content changes in sections 4.1.2, 8.4, 9.7.2 and 9.8; new content in 2.0, 4.2.2.6, 7.7.12, 7.7.13, 8.10, 10.3.2, 10.3.3, 11.3; section 8.6 deleted
4	Slight wording changes throughout, 2.0 updates and additions to definitions; 3.1.2 updated org chart; 4.3 added crime scene coordinator responsibilities; 7.4 updated equipment on Monthly QC check; 7.7.3 removed Omnichrome ALS; 7.7.7, 7.7.11 modified content; 7.7.14 added photo printer; 8.7, 8.12, 9.3 modified content; 9.5.3, 9.6, 9.8.2, 11.0 added content.
5	Convert to pdf following automated conversion system error – no other changes were made
6	Slight wording changes throughout; 2.0 updates and additions to definitions and references; 5.15 updated content & added 5.15.3; updated equipment 7.4, updated content 7.7.4, 7.7.6, 7.7.13, removed 7.7.14; updated content 9.5.3, 9.5.5.3, 9.5.5.5.3, 9.5.5.6.4, 9.8.2, & 9.10.7.
7	Slight wording changes throughout; 2.0 updates to definitions; 3.0 updated org chart; updated 4.1.1, added 4.2.2.13 & 4.2.2.14; added 5.3.1 and updated 5.3.2, 5.8.4, & 5.15.3; updated equipment – removed KSI & Scansnap; updated 8.2; updated 9.8.2; added new section 10.0 Conflict Resolution; updated 11.3.1, updated 13.6.
8	Slight wording changes throughout; 1.0 updated references; 2.0 updated definitions & references; 5.0 updated 5.15; 6.0 updated 6.2; 7.0 added 7.7.6 MEGAfume & updated 7.7.4, 7.7.7, & 7.7.9; 8.0 updated 8.2 & 8.10; 9.0 added 9.5.2.1.1 updated 9.5.5.1, 9.5.5.2, & 9.8.2; 10.0 added 10.3.1, 10.3.2 & 10.5.3, updated 10.4.2, 10.5.1, 10.5.4-10.6; 12.0 updated 12.2, 12.5, & 12.6; 13.0 added 13.6.

9	Slight wording changes throughout; 1.0 updated references; 2.0 updated definitions & removed references; updates to sections 7.7.3, 7.7.12, 9.5.5.2, 9.5.5.3, 9.8.2, 10.3, 10.4, 13.3, 13.5; & added sections 7.7.8, 7.7.13, 11.2.

1.0 Introduction

1.1 Statement of Purpose/Background

The purpose of the Idaho State Police Latent Print section is to provide quality, unbiased and cost-effective analysis in the processing and comparison of latent print evidence for use by the criminal justice system. The ISP Latent Print Quality Manual along with the ISP Latent Print Analytical Method provides the framework for these pursuits.

1.2 Objectives/Scope

1.2.1 To develop and maintain, through annual review and revision (where necessary), a system of quality procedures, analytical methods, and controls.

1.2.2 To ensure personnel receive quality up-to-date training in the areas of latent print processing and latent print comparison.

1.2.3 To remain scientifically neutral by basing case/evidence acceptance and analysis decisions, case reports, and testimony on scientific rationale.

1.2.4 To provide high quality training, technical and informational assistance, analyses, written reports, and testimony.

1.2.5 To provide services in a timely and cost-effective manner.

1.3 References

1.3.1 Idaho State Police Forensic Services – Quality Manual

1.3.2 The Scientific Working Group on Friction Ridge Analysis, Study and Technology (SWGFAST) - SWGFAST documents are published on the SWGFAST website http://www.swgfast.org/

1.3.2.1 SWGFAST Document #19 Standard Terminology of Friction Ridge Examination (Latent/Tenprint), Ver. 4.1

1.3.2.2 SWGFAST Individualization/Identification Position Statement, 3/06/2012 ver. 1.0

1.3.3 ASTM International. E3235-21 Standard Practice for Latent Print Evidence Imaging Resolution. West Conshohocken, PA; ASTM International, 2022.

1.3.4 ASTM International. E2916-19e1 Standard Terminology for Digital and Multimedia Evidence Examination. West Conshohocken, PA; ASTM International, 2019.

1.3.5 ANSI/ASB Best Practice Recommendation 068. Safe Handling of Firearms and Ammunition. First Edition, 2020.

1.3.6 OSAC Registry Proposed Standard – OSAC 2021-N-0020, Best Practice Recommendations for Limited Examinations, Version 2.0 April 2022.

1.3.7 OSAC Registry Proposed Standard – OSAC 2022-N-0033, Standard for Processing Evidence for the Detection of Friction Ridge Impressions, Version: 2.0 July 2022.

1.3.8 OSAC Registry Proposed Standard – OSAC 2022-S-0012, Standard for Proficiency Testing in Friction Ridge Examination, Version 2.0 April 2022.

1.3.9 The United States Department of Justice - Uniform Language for Testimony and Reports for the Forensic Latent Print Discipline – Effective 8.15.20. ULTRs are published at https://www.justice.gov/olp/uniform-language-testimony-and-reports.

2.0 Definitions

ABIS - Automated Biometric Identification System; a term for fingerprint matching, storage, and retrieval systems; the predecessor to MBIS.

ACE-V - Comparison methodology consisting of Analysis, Comparison, Evaluation, and Verification.

ACHIEVABLE RESOLUTION – The measure of an imaging system's practical limit to distinguish between separate adjacent elements, typically by imaging a known reference standard.

AFIS - Automated Fingerprint Identification System; the generic term for a fingerprint matching, storage, and retrieval system; the predecessor to ABIS and MBIS.

ALTERNATE LIGHT SOURCE (ALS)/FORENSIC LIGHT SOURCE - A filtered light source that may be fixed or tunable to a variety of spectral ranges.

ANALYSIS - The first step of the ACE-V method. The assessment of an impression to determine suitability for comparison.

ANATOMICAL SOURCE - An area of friction ridge skin from an individual from which an impression originated, i.e. finger, joint, palm, plantar.

ANCHOR POINT - An unambiguous feature present in the latent print that allows an analyst to reliably determine the anatomical location and orientation of the unknown impression.

ARCH – PLAIN - A fingerprint pattern in which the ridges enter on one side of the impression, and flow, or tend to flow, out the other side with a rise or wave in the center.

ARCH –TENTED - A type of fingerprint pattern that possesses either an angle, an up-thrust, or two of the three basic characteristics of the loop.

ARTIFACT - Any distortion or alteration not in the original friction ridge impression, produced by an external agent or action; any information not present in the original object/image, inadvertently introduced by image capture, processing, compression, transmission, display, or printing.

AUTO LI/LIP – MBIS term for Auto-Latent Inquiry which allows the submission of an inquiry (fingerprint or palmprint) without image enhancements or editing.

BIAS - See cognitive bias, confirmation bias, and contextual bias.

BIFURCATION - The point at which one friction ridge divides into two friction ridges.

BLIND VERIFICATION - The independent examination of one or more friction ridge impressions at any stage of the ACE process by another competent analyst who is provided with no, or limited, contextual information, and has no expectation or knowledge of the determinations or conclusions of the original analyst.

CAE - Cyanoacrylate Ester, i.e. super glue.

CANDIDATE - An individual's fingerprint record under consideration for comparison to the latent fingerprint, often generated via computer database.

CATEGORY 1 IMAGE - Images used to demonstrate what the photographer or recording device witnessed. They are not analyzed by subject matter experts and may include general crime scene, documentation of items of evidence in the laboratory, etc.

CATEGORY 2 IMAGE - Images that subject matter experts use for scientific analysis. These can include, but are not limited to, latent prints or other impression evidence, patterned evidence, or questioned documents.

CHARACTERISTICS - Distinctive details of the friction ridges, including Level 1, 2, 3 details (also known as features).

CLARITY - A qualitative measure of how well the details of three-dimensional friction ridges are recorded in the two–dimensional impression.

CLASS CHARACTERISTICS - Characteristics used to put things into groups or classes (e.g., arches, loops, and whorls).

CLASSIFICATION - Alpha/numeric formula of finger and palm print patterns used as a guide for filing and searching.

COGNITIVE BIAS - The effect of perceptual or mental processes on the reliability and validity of one's observations and conclusions.

COMPARISON - The second step of the ACE-V method. The observation of two or more impressions to determine the existence of discrepancies, dissimilarities, or similarities.

COMPARISON VALUE/COMPARABLE RIDGE DETAIL - An opinion decision by the analyst that the print in question contains enough information to proceed to the comparison phase or proceed from processing to comparison.

COMPETENT FRICTION RIDGE ANALYST (EXAMINER) - An individual who has successfully completed their FSP's training program and has demonstrated to the FSP that they possess the knowledge, skills and abilities to perform the tasks required of their current position. An individual authorized to conduct friction ridge examinations for the FSP by observing and interpreting data, making decisions, forming conclusions and opinions, issuing reports and/or providing testimony.

COMPLEXITY (of a Comparison) - A characteristic of a comparison in which the attributes of one or both impressions may require additional consideration and quality control measures as it relates to the evaluation of a source conclusion. Comparisons can be designated as high complexity, low complexity, or non-complex.

COMPLEXITY (of an Impression) - A characteristic of an impression whose attributes may require additional consideration and quality control measures. Impressions can be designated as high complexity, low complexity, or non-complex.

CONCLUSION - Determination made during the evaluation stage of ACE-V, including source identification, inconclusive, source exclusion.

CONFIRMATION BIAS - The tendency to search for data or interpret information in a manner that supports one's preconceptions.

CONFLICT - A condition in which two or more analysts disagree on a suitability decision or source conclusion.

CONSULTATION - A significant interaction, prior to the initiation of verification or technical review process, between qualified FSP personnel regarding one or more impressions in question. NOTE: An interaction is considered "significant" when it involves a partial or complete examination of the impression(s) in question.

CONSENSUS DETERMINATION OR CONCLUSION - Agreement reflecting the collective judgment of a group of analysts trained to competency when making determinations or conclusions with respect to one or more impressions.

CONTEXTUAL BIAS - The effect of information or outside influences on the evaluation and interpretation of data.

CORE - The approximate center of a pattern; a specific formation within a fingerprint pattern, defined by classification systems such as Henry.

CREASE - A line or linear depression; grooves at the joints of the phalanges, at the junction of the digits and across the palmar and plantar surfaces that accommodate flexion.

DELTA - The point on a ridge at or nearest to the point of divergence of two type lines and located at or directly in front of the point of divergence.

DERMIS - The layer of skin beneath the epidermis.

DESTINATION - The MBIS database (i.e. Idaho, WIN, or NGI) or database section searched (e.g. finger, specific finger #, palm, or writer's palm, etc.).

DEVIATION - A change in ridge path; an alteration or departure from a documented policy or method.

DISCREPANCY - The presence of friction ridge detail in one impression that does not exist in the corresponding area of another impression. See also Dissimilarity.

DISCRIMINATING – Possessing distinctive features; capable of being differentiated.

DISSIMILARITY - A difference in appearance between two friction ridge impressions. See also Discrepancy.

DISSOCIATED RIDGES - Disrupted, rather than continuous friction ridges; an area of friction ridge units that did not form into friction ridges, generally due to a genetic abnormality.

DISTORTION - Variances in the reproduction of friction skin caused by pressure, movement, force, contact surface, etc. Distortion is not a discrepancy and is not a basis for source exclusion.

DOT - An isolated ridge unit whose length approximates its width in size.

EDGEOSCOPY – The study of the morphological characteristics of friction ridges; contour or shape of the edges of friction ridges.

ELASTICITY - The ability of skin to recover from stretching, compression, or distortion.

ELIMINATION PRINTS - Exemplars of friction ridge skin detail of persons known to have had access to the item examined for latent prints.

ENDING RIDGE - A single friction ridge that terminates within the friction ridge structure.

EPIDERMIS - The outer layer of the skin.

ERRONEOUS EXCLUSION/FALSE NEGATIVE - The incorrect determination that two areas of friction ridge impressions did not originate from the same source (see also missed source identification).

ERRONEOUS IDENTIFICATION/FALSE POSITIVE - The incorrect determination that two areas of friction ridge impressions originated from the same source.

EVALUATION - The third step of the ACE-V method wherein an analyst assesses the value of the details observed during the analysis and the comparison steps and reaches a conclusion.

EXCLUSION/SOURCE EXCLUSION - An analyst's conclusion that two friction ridge skin impressions did not originate from the same source.

EXCLUSION ONLY VALUE - An opinion decision by the analyst that the print does not contain a sufficient amount of detail to support an identification but does contain specific locatable features that may result in an exclusion.

EXAMINATION - The act or process of observing, searching, detecting, recording, prioritizing, collecting, analyzing, measuring, comparing, and/or interpreting.

EXEMPLARS - The prints of an individual, associated with a known or claimed identity, and deliberately recorded electronically, by ink, or by another medium (also known as known prints).

FALSE NEGATIVE RATE - The proportion of the comparisons between mated prints that result in an erroneous source exclusion conclusion.

FALSE POSITIVE RATE - The proportion of the comparisons between non-mated prints that result in an erroneous source identification conclusion.

FEATURES – see Friction Ridge Detail.

FINGERPRINT - An impression of the friction ridges of all or any part of the finger.

FOCAL POINTS - In classification, the core and delta(s) of a fingerprint; another term for target group.

FRICTION RIDGE - A raised portion of the epidermis on the palmar or plantar skin, consisting of one or more connected ridge units of friction ridge skin.

FRICTION RIDGE DETAIL/FEATURES - The combination of ridge flow, ridge characteristics, and ridge structure of friction ridge skin, as observed and reproduced in an impression. A large subset of the observed data used to compare and interpret similarity or dissimilarity between two impressions.

FRICTION RIDGE SKIN - A specialized type of skin present on the palmar portion of the hands and the plantar portion of the feet.

FRICTION RIDGE UNIT - Single section of friction ridge containing one pore.

FORENSIC SERVICE PROVIDER (FSP) - A forensic science entity or forensic science practitioner providing forensic science services.

FURROWS - Valleys or depressions between the friction ridges.

GALTON DETAILS - Term referring to friction ridge characteristics attributed to the research of English fingerprint pioneer, Sir Francis Galton.

GROUND TRUTH - The actual or true state of affairs concerning the source or type of items submitted for evaluation.

HENRY CLASSIFICATION - An alpha-numeric system of fingerprint classification named for Sir Edward Richard Henry.

HIT - Likely candidate generated as the result of an MBIS search.

HYPOTHENAR - The fleshy eminence along the ulnar side of the palm.

IDENTIFICATION/SOURCE IDENTIFICATION - An analyst's conclusion that two friction ridge skin impressions originated from the same source. This conclusion is an analyst's opinion that the observed friction ridge skin features are in sufficient correspondence such that the analyst would not expect to see the same arrangement of features repeated in an impression that came from a different source and has found insufficient friction ridge skin features in disagreement to conclude that the impressions came from different sources.

ILIMS - Idaho Laboratory Information Management System.

IMAGE PROCESSING/ENHANCEMENT - Any process intended to improve the visual appearance of an image or specific features within an image.

INCIPIENT RIDGE - A friction ridge, not fully developed, which may appear shorter and thinner in appearance than fully developed friction ridges (i.e. interstitial, nascent).

INCONCLUSIVE – An analyst's conclusion that there is insufficient quantity and/or clarity of corresponding friction ridge skin features between two impressions such that the analyst is unable to identify or exclude the two impressions as originating from the same source.

INTERDIGITAL - The fleshy portion of the palm located directly below the proximal end of the fingers.

INTERVENING RIDGES - The number of friction ridges between two characteristics.

IRD - Insufficient ridge detail. A term applied to impressions that, in the opinion of the analyst, do not contain sufficient detail to warrant additional analysis and/or preservation.

JOINT - The hinged area that separates segments of the finger.

KNOWN PRINT (FINGER, PALM, FOOT) - The prints of an individual, associated with a known or claimed identity, and deliberately recorded electronically, by ink, or by another medium (also known as exemplars).

LATENT PRINT - Transferred impression of friction ridge detail not readily visible; generic term used for questioned friction ridge detail.

LEVEL 1 DETAIL - Friction ridge flow, pattern type, and general morphological information.

LEVEL 2 DETAIL - Individual friction ridge paths and associated events including minutiae (e.g., bifurcations, ending ridges, and dots).

LEVEL 3 DETAIL - Friction ridge dimensional attributes (e.g. width, edge shapes, and pores).

LIFT - An adhesive or other medium used to transfer a friction ridge impression from a substrate.

LIVE SCAN - The process of recording friction ridges (fingers and/or palms) through an electronic system, as opposed to traditional inking methods.

LI - MBIS term for Latent Inquiry.

LI_COMBO - MBIS term for Latent Inquiry followed by automatic registration in the unsolved latent database when no HIT is generated and/or search through a remote database.

LIMITED COMPARISON - the selective application of latent print comparison without exhausting the full capabilities of the FSP to determine if acceptable results can be obtained on a subset of available impressions.

LIMITED PROCESSING - the selective application of sequential processing without exhausting the full capabilities of the FSP or processing in batches to determine if acceptable results can be obtained on a subset of items submitted.

LIP - MBIS term for Latent Inquiry Palm.

LIP_COMBO - MBIS term for Latent Inquiry Palm followed by automatic registration in the unsolved latent database when no HIT is generated and/or search through a remote database.

LOOP - A pattern type in which one or more friction ridges enter upon one side, recurve, touch or pass an imaginary line between delta and core and flow out, or tend to flow out, on the same side the friction ridges entered. Types include left slant loops, in which the pattern flows to the left in the impression; right slant loops, in which the pattern flows to the right in the impression. When the hand of origin is known they may be referred to as radial loops, in which the pattern flows in the direction of the radius bone of the forearm (toward the thumb); and ulnar loops, in which the pattern flows in the direction of the ulna bone of the forearm (toward the little finger).

LOSSLESS COMPRESSION - A data reduction process that is completely reversible, such that all of the original data can be retrieved in its original form (i.e. TIF, RAW).

LOSSY COMPRESSION - A data reduction process that is not completely reversible, and some original data is irretrievably lost (i.e. JPEG).

LR - MBIS term for Latent Registration in the unsolved latent database.

MACHINE RESOLUTION/OPTICAL RESOLUTION – A nominal resolution specification for a flatbed scanner based on the actual number of pixels per inch in the sensor array and the number of individual steps per inch that the stepper motor can move the sensor array. This is to be distinguished from the maximum resolution specification that is based on resampling.

MAJOR CASE PRINTS/COMPLETE FRICTION RIDGE EXEMPLARS - A systematic recording of all of the friction ridge detail appearing on the palmar sides of the hands. This includes the extreme sides of the palms, joints, tips, and sides of the fingers. Under special circumstances complete friction ridge exemplars may also need to be taken from the plantar portion of the feet.

MATRIX - The substance that is deposited or removed by the friction ridge skin when making an impression.

MBIS – The Multimodal Biometric Identification System is an advanced multimodal matching system designed to assist in the identification of individuals based on their biometric information.

MBIS DATABASES - These are various databases available to ISP Forensic Services for searching latent prints. These databases include Idaho, WIN, WA, CAL-DOJ, NGI, or other partner databases.

MBIS VALUE - An opinion decision by the analyst that the print in question contains enough information to proceed to MBIS.

MINUTIA - The point where a friction ridge begins, terminates, or splits into two or more ridges. A subset of the friction ridge detail/features traditionally consisting of ridge endings, bifurcations, and dots/short ridges used to compare and interpret similarity and dissimilarity between two impressions.

MISSED EXCLUSION - The failure to make an exclusion when in fact the friction ridge impressions are non-mated (includes false positive, non-consensus inconclusive and non-consensus no value).

MISSED IDENTIFICATION/MISSED SOURCE IDENTIFICATION - The failure to make an identification when, in fact, both friction ridge impressions are from the same source.

NCIC CLASSIFICATION - The National Crime Information Center's alpha/numeric system of fingerprint classification.

NDP - No ridge detail present.

NEGATIVE CONTROL - A test performed to demonstrate that no false positives result from the performance of a procedure.

NGI - MBIS term for the FBI's Next Generation Identification system that replaced IAFIS.

NOMINAL RESOLUTION - the number of horizontal and vertical pixels an imaging system or sensor is capable of capturing.

NON-COMPLEX - The encountering of common circumstances during an examination (e.g. low distortion, high quality or quantity, or no conflicts among analysts).

NON-POROUS – A substrate that demonstrates nonabsorbent properties.

NV - Indicates the presence of friction ridge impressions assessed for comparison but not designated as such due to a lack of quantity and/or clarity of detail. These impressions are not individually marked.

OBSERVED DATA – Any demonstrable information observed within an impression that an examiner relies upon to reach a decision, conclusion, or opinion. This has historically been expressed as "features" or "minutiae," but the use of the broader term "observed data" is inclusive of other types of data that may be considered beyond minutiae, such as quality, scars, creases, edge shapes, pore structure, and other friction ridge features.

OPEN FIELD – A significant area or series of ridges devoid of features (dots, bifurcations, ending ridges).

ORIGINAL IMAGE - An accurate and complete replica of the primary image, irrespective of media.

PALM PRINT - An impression of the friction ridges from any part of the palmar surface of the hand.

PATENT PRINT - Friction ridge impression of unknown origin, visible without development.

PATTERN - Fundamental pattern of the ridge flow: arch, loop, whorl. Arches are subdivided into plain and tented arches; loops are subdivided into right slant and left slant loops; whorls are subdivided into plain whorls, double loops, central pocket loops, and accidental whorls.

PERSISTENCY- To remain unchanged or fixed in a specified character, condition, or position.

PLASTIC PRINT – A friction ridge impression that is impressed in a soft substrate to create a three-dimensional impression.

PORES - Small openings in the skin through which perspiration is released.

POROSCOPY - The study of the size, shape, and arrangement of pores.

POROUS - A substrate that demonstrates absorbent properties.

POSITIVE CONTROL - A test performed prior to or in parallel with casework samples that is designed to demonstrate that a procedure works correctly.

PRIMARY IMAGE- The first instance in which an image is recorded onto any media that is a separate, identifiable object.

PRESERVED/PRESERVATION - Casting, scanning, photography, lifting, or other method used to capture latent impressions for further examination.

PROCESSED IMAGE - Any image that has undergone enhancement, restoration, or other operation.

PROFICIENCY - The ongoing demonstration of competency.

QUALIFIED ANALYST - An individual who has completed the internal training program, passed competency testing, been approved to perform case work, and continues to demonstrate proficiency.

QUALITY - The clarity of information contained within a friction ridge impression.

QUANTITY- The amount of information contained within a friction ridge impression.

RDP - A term used during processing to denote the presence of friction ridge detail that, in the opinion of the analyst, may warrant additional analysis and/or preservation.

REAGENT - Substance used in a chemical reaction to detect, examine, measure, or produce other substances.

RELATIVE POSITION - Proximity of characteristics to each other.

RESIZING - Changing the size of an image by changing the number of pixels per unit of measurement without adding or subtracting any pixels from the image.

RESAMPLING - Changing the size and/or resolution of the image by adding or subtracting pixels through interpolation.

RESOLUTION - the act, process, or capability of distinguishing between two separate but adjacent parts or stimuli, such as elements of detail in an image or similar colors.

RESOLVING POWER - see achievable resolution.

RIDGE FLOW - The direction of one or more friction ridges; a component of Level 1 detail.

RIDGE PATH - The directional flow of a single friction ridge; a component of Level 2 detail.

RIDGEOLOGY - The study of the discriminating nature of friction ridge skin and its use for personal identification.

SEQUENTIAL PROCESSING - The application of chemical and/or physical friction ridge development techniques in a specific order to target specific constituents of friction ridge impressions which may be

visualized for examination and to maximize the preservation of the friction ridge detail during each process. FSP policy and capabilities dictate the full spectrum of sequential processes available to examiners and a minimum standard for their application.

SIMULTANEOUS IMPRESSION - Two or more friction ridge impressions from the same hand or foot deposited concurrently.

SEMI-POROUS - A substrate that demonstrates both absorbent and non-absorbent properties.

SOURCE - An area of friction ridge skin from an individual from which an impression originated.

SPECIFICITY - The assigned weight of a feature based on its rarity, location, clarity, and its relation to other features.

STOCK SOLUTION - Concentrated solution diluted to prepare a working solution.

SUBSTRATE - Surface upon which a friction ridge impression is deposited.

SUFFICIENCY - The product of the quality and quantity of the objective data under observation (e.g., friction ridge, crease, scar features, feature specificity).

SUFFICIENT - The analyst's determination that adequate discriminating details of the friction skin source exist in the impression to support the conclusion.

SUITABLE/SUITABILITY - The determination that there is sufficiency in an impression to be of value for further analysis or comparison.

TARGET GROUP - A distinctive group of ridge features (and their relationships) that can be recognized.

TECHNICAL REVIEW - Review of notes, documents, and other data that forms the basis for a scientific conclusion.

TEN PRINT - A generic reference to examinations performed on intentionally recorded friction ridge impressions; a controlled recording of an individual's available fingers using ink, electronic imaging, or other medium.

THENAR - The fleshy mass on the palm of the hand at the base of the thumb.

TLI - MBIS Ten Print to Latent Inquiry.

TOLERANCE - The amount of variation in appearance of friction ridge features to be allowed during a comparison, should a corresponding print be made available.

UNIQUENESS - Being the only one of its kind.

VERIFICATION - Confirmation, through either re-examination or review of documented data by another examiner, that a conclusion or opinion conforms to specified requirements and is reproducible. NOTE: "Specified requirements" are the FSP's policies and procedures relating to Analysis, Comparison and Evaluation of friction ridge impressions.

WHORL – ACCIDENTAL - A fingerprint pattern consisting of two different types of patterns, with the exception of the plain arch, with two or more deltas; or a pattern which possesses some of the requirements for two or more different types; or a pattern which conforms to none of the definitions.

WHORL - CENTRAL POCKET LOOP - A type of fingerprint pattern which has two deltas and at least one ridge which makes, or tends to make, one complete circuit, which may be spiral, oval, circular, or any variant of a circle. An imaginary line drawn between the two deltas must not touch or cross any re-curving ridges within the inner pattern area.

WHORL - DOUBLE LOOP - A type of fingerprint pattern that consists of two separate loop formations with two separate and distinct sets of shoulders and two deltas.

WHORL – PLAIN - A type of fingerprint pattern which consists of one or more ridges which make, or tend to make, a complete circuit, with two deltas, between which, when an imaginary line is drawn, at least one re-curving ridge within the inner pattern area is cut or touched.

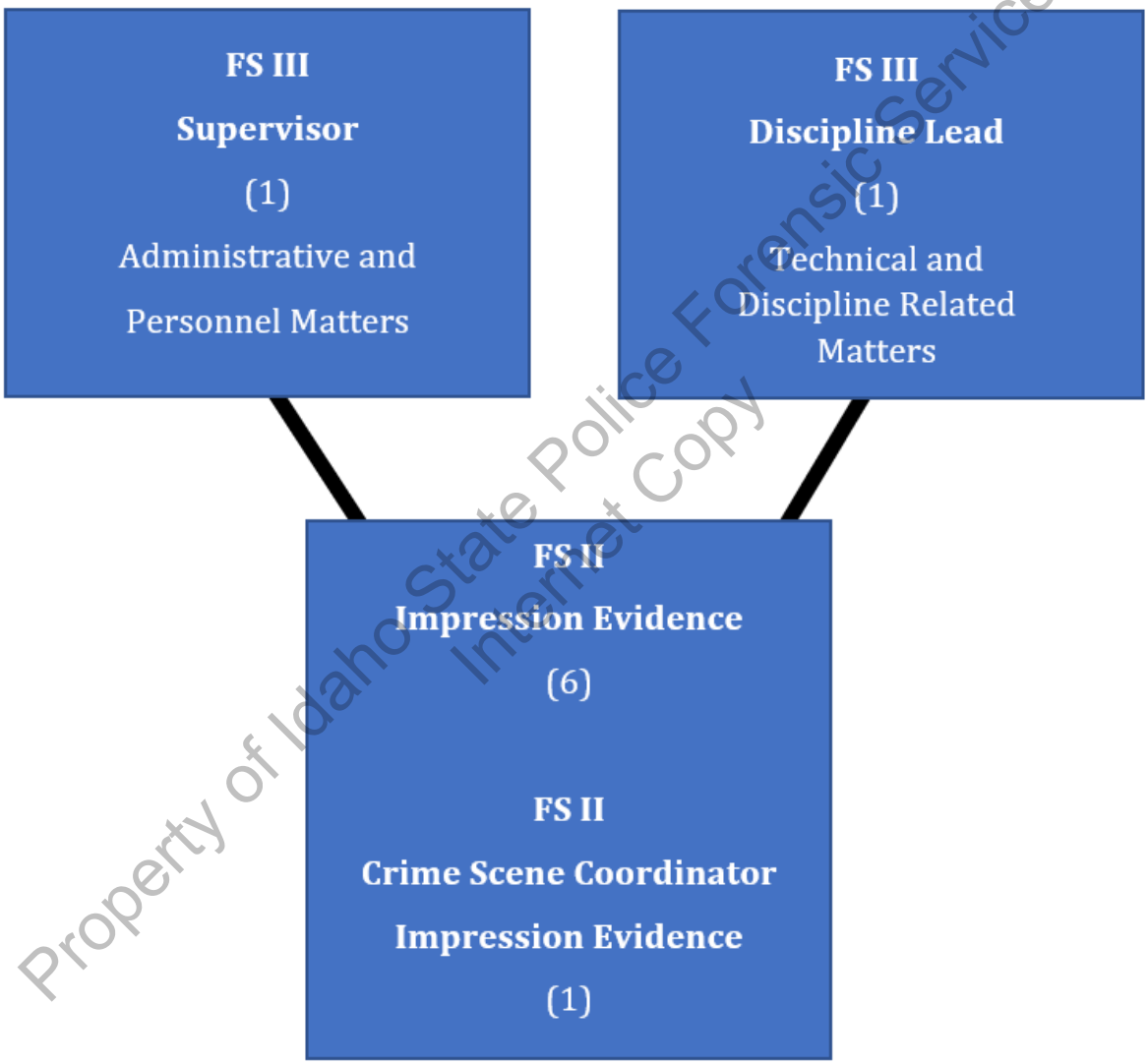
WORKING SOLUTION - Solution at the proper dilution for processing.

3.0 Organization and Management

3.1 Organizational Chart and Functional Structure

3.1.1 An organizational chart for the Idaho State Police appears in the ISP Policy Manual.

3.1.2 An organizational chart for ISP Forensic Services appears in the ISP Forensic Services Quality/Procedure Manual. The organization of the latent print unit is delineated below.



4.0 Responsibilities

4.1 SUPERVISOR AND DISCIPLINE LEAD

4.1.1 The Impression Evidence Discipline Lead and the Latent Supervisor are responsible for ensuring that personnel adhere to established analytical methods, safety practices, and laboratory policies and procedures.

4.1.2 The Impression Evidence Discipline Lead and Latent Supervisor shall collaborate on analyst training plans and ensure that analysts' training records are on file with the Quality Manager.

4.2 FORENSIC SCIENTIST – LATENT PRINTS

4.2.1 Individual analysts are responsible for adherence to established analytical methods, safety practices, and laboratory policies and procedures.

4.2.2 Latent print analyst duties include, but are not limited to:

4.2.2.1 Communicate professionally and effectively;

4.2.2.2 Safely handle chemicals and biological hazards;

4.2.2.3 Use alternate light sources, superglue chambers, hoods and other laboratory equipment in a safe and effective manner;

4.2.2.4 Participate in routine quality control measures, instrument maintenance and troubleshooting;

4.2.2.5 Develop friction ridge impressions using appropriate light based, physical, and chemical techniques;

4.2.2.6 Digitally process impression evidence;

4.2.2.7 Perform analysis, comparison, and evaluation of friction ridge impressions;

4.2.2.8 Take appropriate and thorough notes and issue written reports;

4.2.2.9 Perform technical and administrative case work reviews;

4.2.2.10 Present expert testimony in court and interpret results for prosecutors and defense counsel;

4.2.2.11 Train law enforcement in the processing and documentation of latent print evidence and the taking of known exemplars;

4.2.2.12 Obtain case related known exemplars;

4.2.2.13 Respond to crime scenes and autopsies to the extent of training;

4.2.2.14 Assist with analyst training;

4.2.2.15 Operate the Multi-Modal Biometric Identification System, MBIS;

4.2.2.16 Continue to demonstrate competence through proficiency testing and courtroom testimony review;

4.2.2.17 Obtain and maintain CLPE certification through the International Association for Identification.

4.3 CRIME SCENE COORDINATOR

4.3.1 This position performs crime scene and latent print processing/comparison duties as listed above.

4.3.2 Additional crime scene duties include, but are not limited to:

4.3.2.1 Train police officers and medical personnel in collection of evidence and crime scene processing and documentation;

4.3.2.2 Participate in routine quality control measures, instrument maintenance and troubleshooting;

4.3.2.3 Coordinate ISPFS responses to crime scenes state-wide;

4.3.2.4 Coordinate crime scene response gear, PPE, supplies, and equipment state-wide;

4.3.2.5 Coordinate development and maintenance of crime scene methods and manuals;

4.3.2.6 Provide assistance at complex crime scenes.

4.3.2.7 Obtain and maintain Crime Scene certification through the International Association for Identification.

5.0 Evidence Control and Handling

5.1 Evidence handling will be in accordance to ISPFS Quality/Procedure Manual.

5.2 Cases may be generated when customer agencies submit evidence through the Idaho Laboratory Information Management System (ILIMS), by analysts in response to an MBIS TLI HIT, or as a supplementary assignment to a previous analysis.

5.3 Types of cases being worked by a particular analyst may vary and will depend on the types of analysis a specific analyst is approved to perform and current case load.

5.4 Case work may be prioritized by offense type (crimes against persons taking higher priority over less egregious crimes) impending trial dates, court orders, or other case specific circumstances that warrant prioritization.

5.4.1 Priority cases may be assigned by the Discipline Lead or Case Manager.

5.4.2 Analysts should query the ILIMS system for routine cases assigned to the section, by priority and/or by task type (Processing, Comparison, MBIS Only, etc.).

5.5 The potential probative value of the evidence may be assessed when deciding which evidence to process first and/or which latent comparisons to prioritize.

5.6 Limited processing/comparison may be utilized under limited circumstances (extremely large or time intensive cases) and is not appropriate for all cases.

5.6.1 Limited processing/comparison is generally not appropriate for high priority offenses, unknown suspect, or multi-suspect cases.

5.6.2 Any decision to halt processing or perform limited comparisons shall be made in consultation with the submitting agency

5.6.2.1 Communication with the agency should ascertain if examination is still required;

5.6.2.2 Determine the most probative items of evidence to be processed/latent prints to be compared first;

5.6.2.3 Obtain agency agreement that that processing/comparison may stop when investigative needs of the customer have been met (i.e. all persons of interest have been identified);

5.6.2.4 and relay that all MBIS quality friction ridge impressions will be compared and/or searched. Non-MBIS quality friction ridge impression comparisons may be completed upon additional request from the agency.

5.7 Analysts are responsible for the security and integrity of all evidence in their custody.

5.8 When not under the direct control of section personnel, evidence and in-progress work product will be secured either by closing and locking the laboratory door or

by its return to secured storage (analyst's personal evidence cabinet or equivalent).

5.9 Should laboratory access be required by non-laboratory personnel while evidence is in process (i.e. maintenance, auditors etc.), they shall be accompanied at all times by latent section personnel.

5.10 When evidence packages are opened, original seals should be left intact whenever possible.

5.11 When working in the laboratory, evidence should be examined on a clean workstation covered by butcher paper.

5.11.1 Use a freshly prepared 10% bleach solution, or equivalent disinfectant before and after examining biologically contaminated evidence.

5.11.2 Care should be taken to prevent cross contamination and deleterious change. Separately packaged items of evidence that could be cross contaminated (e.g. with DNA) should not be examined simultaneously on the same work surface.

5.11.3 Potential trace evidence may be transferred to the butcher paper; handle it accordingly. It is acceptable to preserve the butcher paper and return it with the item in the original packaging. Preservation of the butcher paper should be noted in the case notes.

5.12 Each item of evidence shall be evaluated by the analyst to assess the potential for negative implications to other types of examinations.

5.12.1 In the event that other evidence may be present on an item, the analyst may document and preserve the evidence (i.e. trace/drugs); contact the agency to determine if the evidence should be preserved, and/or contact an analyst from the appropriate discipline (i.e. biology, questioned documents) to consult on how best to proceed.

5.13 Latent print processing has the potential to irreparably damage items of evidence. If an item is suspected to have great value (monetary or sentimental), the analyst should contact the submitting agency to explain potential damage and gain verbal approval prior to processing. Specific requests from the submitting agency to limit processing will be documented in the case record and do not require a deviation approval.

5.14 Items shall be marked with the case number, item number, and analysts initials in accordance with the ISP Forensic Services Quality/Procedure Manual. Items to be processed for latent prints may be marked after processing to avoid altering potential evidence.

5.15 In order to ensure a correct count, money shall be counted by the analyst and witnessed by one other person when first opened (if possible) and again when it is resealed. If the dollar amount is less than $20.00 a count witness is not required. The identification of the witness shall be noted in ILIMS.

5.16 Evidence that contains a measurable amount of a controlled substance may be handled and processed in the latent section.

5.16.1 If a recoverable amount of substance is received, the analyst will separate the substance from the packaging, re-package the substance in a secondary container and return the secondary container to the original packaging. Repackaging of suspected controlled substances shall be noted in ILIMS.

5.16.2 Latent Section personnel shall not measure/weigh any suspected controlled substance.

5.16.3 The preferred practice is for the submitting agency to separate the suspected controlled substance from the packaging material prior to submission.

5.17 Submission of hands, fingers, or feet of deceased persons to the Latent Section shall only occur when normal printing procedures have failed or cannot be applied due to decomposition or other extenuating factors.

5.17.1 Hands, fingers, or feet should only be removed by the attending medical analyst/coroner or under their authority and supervision.

5.17.2 When possible, it is desirable to have the hands severed at the wrist and forwarded in their entirety. This eliminates the possibility of getting fingers mixed up or incorrectly labeled. If it is not possible to send the hands, the fingers may be submitted. Fingers should be severed at the palm, placed in individual containers, and immediately labeled as to which they are.

5.17.3 It is requested that hands, fingers, etc. be submitted as soon as possible in the same condition as found. If the hands were immersed in water, transport in water. If found dried out, place in an airtight container and transport without using any preservative.

5.17.4 Tissue should be refrigerated if possible.

5.17.5 **Do not use a formaldehyde solution** to preserve the tissue as it causes it to become brittle and hard, making the task of obtaining identifiable prints very difficult.

5.17.6 Body parts received by the lab shall be sealed and placed in an evidence refrigerator or freezer.

5.17.7 Body parts shall be promptly returned to the submitting agency after being processed.

5.18 Case related comparison photographs are retained in the Digital Imaging System. Images will be made available to the agency and/or prosecutor upon request.

5.19 All submitted evidence including any derived latent lift cards will be returned to a Forensic Evidence Specialist (FES) for return to the submitting agency. Digital images submitted as evidence through the "Secure File Manager" will not be returned to the submitting agency.

5.19.1 When latent lift cards are generated during processing, an Impression Evidence Packet (IEP) shall be created. The analyst will add the IEP to the case on the ITEMS tab in ILIMS. The Item # will be "IEP." They will note the packaging, Item Type - "IMP Latent Print Comparison Item(s)," and the description field shall detail how many lifts are contained in the IEP and from which item they were derived (e.g. three latent lift cards: Two from item 1.1 and one from item 3.3). If the original IEP has been returned to the agency and additional submissions result in generation of LLCs, item numbers on subsequent IEPs will follow the pattern of IEP2, IEP3, etc.

5.19.2 The analyst will then print a bar code for the IEP and associate the IEP with the appropriate assignment on the ASSIGNMENTS tab in ILIMS.

5.15.3 In processing cases that generate digital images and no latent lift cards, the analyst will create a comparison assignment using "Item 0 Case File" on the ITEMS tab in ILIMS. If no "Item 0" exists, the analyst shall create an "Item 0" with the item type as "Case File" and packaging as "none."

5.20 Evidence may be temporarily retained for future reference with the approval of the Discipline Lead. Approval shall be documented in ILIMS.

6.0 Validation

6.1 Procedures for the validation and/or performance verification of methods used in ISP Forensic Services are outlined in the ISP Forensic Services Quality/Procedure Manual.

6.2 Validations and/or performance verifications will also be conducted in accordance with SWGFAST Document #17 "Standard for the Validation and Performance Review of Friction Ridge Impression Development and Examination Techniques version 2.0" or its current replacement document to the degree possible.

6.3 Validation/performance verification data, results, and summaries, for methods employed in the Latent Print Section will be maintained in that section.

7.0 Equipment, Calibration, and Maintenance

7.1 General laboratory procedures for the calibration and maintenance of equipment are covered in the ISP Forensic Services Quality/Procedure Manual.

7.2 Operating manuals for section equipment/instrumentation are maintained in the product information file located in the digital imaging laboratory.

7.3 Records from outside vendors, Instrument Maintenance Logs and Monthly QC check forms are maintained in the latent section QC binder located in the chemical processing laboratory.

7.4 The function of the following equipment is documented on the Monthly QC check form:

Fume Hoods
Eye washes
Chemical shower
Balance
Cyanoacrylate fuming chambers
Fingerprint development chamber
MBIS

7.5 General routine maintenance such as wiping off the outside of an instrument, cleaning the glass on flatbed scanners, and cleaning camera lenses, is not required to be noted on the instrument maintenance logs.

7.6 Instrument maintenance logs shall be utilized in the event of instrument malfunction, failure, scheduled maintenance, certifications, and other non-routine maintenance.

7.7 Instrument failure will result in equipment being taken "out of service". A sign will be placed on the instrument and it will not be returned to service until it has passed appropriate performance testing and documentation of such has been recorded on the appropriate instrument maintenance log. Logs are maintained for the following:

7.7.1 **ALS - Alternate Light Sources**

General maintenance shall consist of cleaning the exterior of the ALS with a soft cloth dampened with a mild detergent solution. Clean the ends of light guides, optical filters and lenses as needed using a non-abrasive tissue moistened with ethanol or Windex. Replace bulbs as needed (document on instrument maintenance log).

7.7.1.1 **Mini –Crimescope MCS-400**

The wheels may be opened with a screwdriver to allow for cleaning of both sides of the filters and lenses with lens tissue and ethanol. Eliminate dust if it has accumulated in the wheel (document on instrument maintenance log).

7.7.1.2 **Rofin Polilight PL400**

Self-calibrating instrument. The unit will calibrate on its own via an internal microprocessor. If the instrument is not functioning properly, the unit will display an error message. Errors that are not self-correcting will require maintenance.

7.7.2 **Balance - Mettler Toledo**

Clean housing and weighing pan with a cloth and if necessary, a mild cleaning agent.

Balance is checked annually by an external provider. A Calibration Certificate will be issued and placed in the equipment maintenance log (document on instrument maintenance log).

Intermediate checks may be conducted as needed and documented on the QC worksheet. The allowable deviation from the standard weights is 0.01g or 0.1%, whichever is greater (0.01g deviation for the 0.10g & 1.00g and 0.1g for the 100g weights-document on Monthly QC check form).

If the balance fails an intermediate or annual check, it will be taken out of service until it can be recalibrated or repaired (document on instrument maintenance log).

7.7.3 **Cameras – Canon EOS 6D, Nikon D810**

Use a blower to blow away dust on the lens, viewfinder, reflex mirror and focusing screen. Do not use cleaners that contain organic solvents. Use a lint free cloth and lens cleaning solution to clean lenses.

The resolving power of digital camera/lens combinations will be tested prior to being used in casework and after any repairs or updating of the firmware. An entry will be made on the instrument maintenance log when testing is completed and associated test data will be stored in an Excel Worksheet located on the I:Drive/LP Equipment Settings/LS Camera & Scanner Info. Testing shall follow ASTM E3235-21 Standard Practice for Latent Print Evidence Imaging Resolution and utilize a NIST traceable test target.

7.7.4 **CAE Fuming Chambers – MEGAfume S61**

The inside of the chamber should be cleaned within 24 hours of use for ease of cleanup. The chamber shall be cleaned monthly and as needed using a freshly made 10% bleach solution and/or fine steel wool (0-00). The humidifier water reservoir should be hand washed and the outside of the circulation fan wiped down (not submerged). All shelves, brackets and hanging accessories are dishwasher safe. The UV Decontamination Unit shall be used monthly and as needed as an additional decontamination method to prevent extraneous DNA from being amplified and/or detected (monthly cleanings/decontamination will be documented on monthly QC check form). Carbon filter replacement (MFF61) for these instruments is

based on frequency of use and filter saturation. Filter saturation is monitored on the display. Carbon filter replacement/reset shall be documented on the instrument maintenance log. Calibration is checked annually by an external provider. A Calibration Certificate will be issued and placed in the equipment maintenance log.

7.7.5 **CAE Fuming Chamber – Air Science CA60T**

The chamber shall be cleaned monthly and as needed using 10% bleach or equivalent solution (monthly cleanings will be documented on monthly QC check form). The humidifier wick filter shall be inspected monthly and replaced as needed. Filter replacement schedules for this instrument are based on frequency of use. The CA60T, large chamber, is used infrequently. A tracking sheet has been attached to the CA60T instrument to log usage with suggested filter replacement at 200 cycles for the main carbon filter (ASTM-001) and 50 cycles for the prefilters (ASTMT-PRF & CA-PRF). The proceeding shall be documented on the instrument maintenance log.

7.7.6 **Chemical Exhaust Hoods**

The impression evidence section currently has three hoods located in the latent section chemical laboratory. All hoods are equipped with continuous flow monitoring devices. Capture velocity at the open face of the hood is at least 100 feet/minute. If a hood fails a monthly check, the check will be repeated. If the hood still fails, it will be taken out of service until it can be repaired. The hood shall be tagged indicating that it is out of service. General maintenance consists of cleaning. Hoods are checked annually by an outside vendor and documentation is retained in the equipment maintenance log. Additional maintenance shall be conducted as needed and will be recorded in the maintenance log.

7.7.7 **Fingerprint Development Chamber – Caron 6105**

The water reservoir (bottle) and drains should be checked monthly. The system is gravity fed so the bottle should be at least half full and the bottle cap should have a "weep hole" or otherwise allow for air flow. The bottle shall be maintained with di-ionized or nano-pure water. The chamber should be cleaned monthly (document on monthly QC check form).
When using the chamber for ninhydrin processing, the glass should be warm to the touch and condensation within the chamber should be visible.
When using the chamber for DFO or 1, 2 Indanedione, the glass should be warm to the touch and no condensation should be visible. If the preceding specifications are not observed, refer to the manufacturer's instrument operation manual section on trouble shooting. If the problem cannot be resolved, the chamber will be taken out of service until it can be repaired. The chamber shall be tagged indicating that it is out of service.
Maintenance, service calls, etc. will be recorded in the maintenance log.

7.7.8 **RECOVER LFT**

The internal surfaces of the chamber and accessories should be cleaned using alcohol moistened wipes and allowed to air dry after each use. Use a soft cloth to remove dust and deposits from external surfaces. The internal filter should be replaced when "Filter Health" displays as red. Gasket seals should be replaced if noticeable deterioration of the material is observed or if troubleshooting measures don't resolve recurrent leak failures. Filter and gasket changes shall be documented on the instrument maintenance log. Additional maintenance or system updates shall be conducted as needed and will be recorded in the maintenance log.

7.7.9 **Powder Hoods (Not commercially purchased)**

The latent section currently has four of these hoods located in the latent section powder laboratory.

These hoods are checked annually by an outside vendor. General maintenance consists of cleaning. Filters are changed regularly by building maintenance staff. Additional maintenance shall be conducted as needed and will be recorded in the maintenance log.

7.7.10 **Mystaire Downflow Ductless Workstation**

This hood is checked annually by an outside vendor. General maintenance consists of cleaning the inside and outside of the workstation. The pre-filter should be checked for discoloration every three months and replaced as necessary. Pre-filters may be replaced more frequently when indicated by the illumination of the red neon light. The main carbon filter should be changed every two years or more frequently if needed to maintain air flow. The proceeding shall be documented on the instrument maintenance log. Additional maintenance shall be conducted as needed and will be recorded in the maintenance log.

7.7.11 **VWR 2D Rocker**

No routine maintenance is required other than to keep the unit clean. Cleaning can be done with a damp cloth. Avoid the use of solvents that may attack the product housing.

7.7.12 **SCANNERS**

Flatbed Scanners – Epson V850 Pro, V800, & V700

Clean the scanner glass and the transparency unit window with a soft dry cloth. If needed, use a small amount of glass cleaner on a soft cloth. Do not spray glass cleaner directly on the scanner glass. To clean the outside of the unit, turn the scanner off and unplug the power cord. Clean the outer case with a cloth damped with mild detergent and water.

The resolving power of flatbed scanners will be tested prior to being used in casework, after being moved, and on an annual basis. Testing will utilize a test target with resolution bars within the range of 9.8-13 line pairs per

millimeter (lp/mm). Testing will be performed on a different part of the scanner plate from test-to-test, year-to-year (center, top right, bottom left, bottom right, top left, etc.). An entry will be made on the instrument maintenance log when testing is completed and associated test data will be stored in an Excel Worksheet located on the I:Drive/LP Equipment Settings/LS Camera & Scanner Info. Testing shall follow ASTM E3235-21 Standard Practice for Latent Print Evidence Imaging Resolution and utilize a NIST traceable test target.

7.7.13 **Rulers and Test Targets**

7.7.13.1 NIST Traceable Devices

The measuring specifications and accuracy for NIST traceable measuring devices are determined during certification of these devices and can be found in the instrument maintenance log. NIST traceable measuring devices will be calibrated and recertified every five years. NIST traceable measuring devices will be stored and handled to prevent damage.

7.7.13.2 Rulers and Tape Measures

Non-calibrated rulers, adhesive, rulers and measuring tapes may be used for scanning and photographic purposes. Visual comparison of these devices to a NIST traceable devices is adequate to ensure appropriate measurements.

8.0 Chemicals, Supplies, and Reagent Preparation

8.1 General laboratory policies and procedures regarding the purchase of chemicals and preparation of reagents are covered in the ISP Forensic Services Quality/Procedure Manual.

8.2 Chemical and supply orders will be placed on an as needed basis either by or with the approval of the Discipline Lead. The "LP Chemicals and Supplies" list is located on the I:drive in the Latent Section folder.

8.3 Reagents prepared in-house will be made with care following all quality and safety procedures.

8.3.1 Chemical reagents should be prepared in the fume hoods located in the chemical processing lab.

8.3.2 It is best practice to don a dust mask while weighing all powdered chemicals.

8.4 All reagents shall have a corresponding Reagent Log. When prepared, the date of preparation, manufacturer, and lot numbers (date of purchase if no lot # is available) of the chemicals used, initials of the preparing analyst, and quality control test results (applicable to working solutions), are recorded on the corresponding "Reagent Log." The Reagent Log folder is located in the chemical processing laboratory.

8.5 Long term storage containers shall be labeled with the reagents name, analyst's initials, date of preparation and approximate shelf life (if applicable). An NFPA label shall be placed on the reagent container indicating the chemical hazard categories.

8.6 All reagents shall be tested after they are prepared and prior to use.

8.7 If the same lot of a working solution is used multiple times in the same day, the results of the initial control tests shall be noted on the "ISP FS Latent Section Control Test Log". Subsequent use of the reagent on the same day may utilize the result of the prior test. For reagents with extended development times (i.e. 1, 2 Indanedione Thermal paper and ThermaNin) analysts may utilize control tests performed within a 24 hour period provided the times are tracked).

8.8 Control test results shall be recorded in the notes sections of ILIMS whenever applicable. In ILIMS a "Yes" in the "+/- Control" field indicates that both positive and negative controls performed as expected.

8.9 Should a control fail, the analyst should document that the control failed, attempt to determine the cause, and rectify the problem.

8.10 Infrequently performed tests (i.e. iodine fuming) that have not been used within the given laboratory in the prior six month period shall have the appropriate control tests run PRIOR to use.

8.11 Many reagents will remain viable past their expiration date. A reagent may continue to be used past its expiration date provided both positive and negative control tests are performed and appropriate results obtained.

8.12 Chemicals/reagents that fail control tests or are no longer needed will be disposed of in an appropriate manner.

9.0 Documentation and Report Writing

9.1 Case work documentation and report writing will be according to ISPFS Quality Manual.

9.2 Documentation concerning item packaging and condition of seals will be documented in the Packaging matrix of ILIMS.

9.3 An unambiguous description of items received, including condition when necessary, shall be described in the Item Description matrix of ILIMS. This description will generate into the report. If multiple items are present inside a package then sub items may be used to differentiate items. A more detailed description may be entered into the Latent Print Processing matrix of ILIMS if needed.

9.4 Latent print processing is documented in the Latent Print Processing matrix of ILIMS.

9.5 Documentation shall be to the extent that another qualified analyst would be able to determine each examination activity conducted, their sequence, results of the activities, and any conclusions reached.

9.5.1 As each development method is completed, it is documented in sequence and the evidence is visually examined for the presence of comparable ridge detail.

9.5.2 When comparable ridge detail is observed, it should be preserved prior to additional processing.

9.5.2.1 Comparable ridge detail may be photographed upon initial examination, as additional detail develops, after a specific method, and/or prior to a subsequent method.

9.5.2.1.1 Each latent impression preserved will be given a unique identifier consisting of the item number followed by the latent number (1.1, 1.2., etc.).

9.5.2.1.2 Latent print photographs/images and/or case documentation associated with these photographs/images shall include a scale, unique case identifier, date, impression source (description or source identifier), and significant information about the orientation and/or position of the latent print on the object through description, photography, and/or diagram.

9.5.2.2 Prints developed via powder processing may be lifted in lieu of photography.

9.5.2.2.1 Latent lift cards shall contain the unique case identifier, date, analyst's initials, impression

source (description or source identifier), and significant information about the orientation and/or position of the latent print on the object through description and/or diagram.

9.5.3 If an item submitted as evidence is not processed it will be noted in the case record in ILIMS and in the report.

9.5.4 Latent print examination documentation shall include which prints were analyzed, compared, evaluated, and the conclusions reached.

9.5.4.1 Documentation shall be made in the ILIMS system at the time of the examination and may include annotated images, narrative, annotated legible copies, sketches, MBIS documents, electronic records, or any combination of these methods.

9.5.5 Analysis is documented in the Latent Print Analysis matrix of ILIMS. The extent of documentation is related to the complexity of the examination. The friction ridge impression alone is not sufficient documentation.

9.5.5.1 Each latent impression analyzed will be given a unique identifier consisting of the item number followed by the latent number (1.1, 1.2., etc.).

9.5.5.2 The comparison value of each impression will be documented. If the analyst changes the value decision after verification, it shall be documented along with the reason for the change. Any conclusions reached up to the point the analyst changes the value decision shall be documented.

9.5.5.3 Documentation of latent impressions that are "suitable for comparison" shall include the date of analysis and the following if known: anatomic source of the impression (fingertip, palm, etc.), anatomical orientation, pattern if discernible (loop, whorl, etc.), assessment of clarity (1, 2, 3), complexity, pressure, substrate, development medium of image used for analysis, preservation method, and MBIS value. Analysis may also include matrix, and distortion factors such as deposition pressure, lateral movement, rotational movement or other notable details. Documentation of impressions marked "NDP" or "IRD" shall include a minimum of date of analysis, comparison value, and preservation. Minimum documentation for impressions given a unique identifier will also indicate if other impressions were assessed but not designated for comparison (NV).

9.5.5.3.1 If re-analysis of the latent print during the comparison results in new information (e.g. significant change to the orientation, anatomical source or additional ridge detail), supplemental documentation shall be added.

9.5.5.4 Latent impressions on the reverse side of lift cards or on the edge of tape lifts that appear to have been deposited by the individual making the lift (based on anatomical position/orientation) need not be preserved or analyzed, but documentation shall be recorded in case notes.

9.5.5.5 Analysts shall document to whom the latents were compared, and the results of those comparisons. Comparison conclusions are documented in the Comparison Table matrix of ILIMS.

9.5.5.5.1 Documentation of identifications shall include an annotation in the description field of the digital imaging system, that includes the date of the identification, the initials of the analyst, unique identifier(s) of the exemplar(s) or name on exemplar(s) used to reach the conclusion, and the area identified (ex. finger #, palm etc.). The analyst shall date and initial all exemplars used to effect the identification(s) in the description field of the digital imaging system.

9.5.5.5.2 Documentation of an exclusion shall include, at a minimum, which specific impression was excluded, and unique identifier(s) of the exemplar(s) used to reach the conclusion.

9.5.5.5.3 Documentation of inconclusive findings shall include, at a minimum, which specific impression was compared, the specific anatomical source if applicable, unique identifier(s) of the exemplar(s) used to reach the conclusion, and shall include the reason(s) for the inconclusive finding. These reasons may be based on the complete exemplars and needn't be to the individual finger impressions on the exemplars (ex. latent lacks sufficient quantity/quality for identification, insufficient friction ridge detail in agreement, exemplars smudged, over-

inked/under-inked, incomplete exemplars, no exemplars- palms, tips not recorded, etc.).

9.5.5.5.4 Documentation of consultations shall be in the case notes and include: which specific impression(s) was reviewed, the nature and result of the consultation (e.g. reviewed identification), the identity of the analyst(s), and date of consultation. If analysts have significant interaction on a particular print, the consulted analysts shall not be used as the verifier for that print.

9.5.5.6 All latent impressions/lift cards given unique identifiers are verified.

9.5.5.6.1 Verification of both the latent print analysis matrix and results entered into the Comparison Table, if applicable, are documented in the ILIMS Latent Print Analysis matrix in the areas reserved for the verifier.

9.5.5.6.2 Verifications are documented by entry of the verifier's initials, date of the verification, and password into ILIMS.

9.5.5.6.3 Verifiers are encouraged to enter supplementary or differing analysis documentation into the Verifier Notes field in ILIMS.

9.5.5.6.4 The verifying analyst shall date and initial the identified impression(s) and all exemplars used to effect the identification(s) in the description field of the digital imaging system.

9.6 Analysts shall document searches for criminal history records/associated exemplars and the results of these searches. The case record shall indicate when and by whom the search was conducted if the searching analyst is not the assigned analyst.

9.7 The original or reproduction suitable for comparison of both the compared latent impressions and the known exemplars shall be retained as part of the case record.

9.7.1 When the laboratory cannot ensure that the original latent prints or exemplars used and relied upon in the examination will be maintained by the contributing agencies, the laboratory must maintain an image of the actual data.

9.7.1.1 Case documentation shall contain replications or electronic scans of all latent lift cards submitted by the customer. All

latent prints deemed suitable for comparison shall be preserved in the digital imaging system.

9.7.2 Exemplars used for comparison are documented in the Exemplars matrix of ILIMS. Case documentation shall contain replications or electronic scans of all known exemplars used in the comparison. Known exemplars submitted by the customer agency shall be scanned prior to being returned if they are opened or utilized.

9.7.2.1 Exemplars used for comparison shall be preserved in the digital imaging system prior to being returned.

9.8 The report shall be as clear and concise as possible, convey the analytical findings and conclusions, and will be supported by scientific procedures.

9.8.1 Draft reports are automatically generated by ILIMS based on information entered into the case analysis matrices. It is the analyst's responsibility to ensure that all reports are modified to correct singular/plural and number agreement as well as the correct ordering of events.

9.8.2 The following are some basic report wording guidelines categorized as to type of case and according to where they would appear in the report. There may be situations that do not fit the examples given and wording will be developed as the need arises. (Blanks and italicized words indicate a choice or insertion should be made or delineate usage).

PROCESSING ONLY CASE WORDING EXAMPLES:

EVIDENCE DESCRIPTION:

Item___ (Agency Ex.) - *this should be an unambiguous description of the evidence received and should delineate any sub item numbers.*

CONCLUSIONS AND INTERPRETATIONS:

Item___- was processed for latent prints.
Item___- is not conducive to latent print processing. Item___ was not processed.
Item___- was not opened or examined. – *use when lifts/exemplars are forwarded for comparison.*

Item___- no latent prints were observed or developed. - *use for NDP items*

Item___- no latent prints containing a sufficient amount of clear ridge detail necessary for comparison purposes were observed or developed. - *use for IRD items*

Item___- latent prints were observed or developed. – *use for RDP items*

Latent prints _____ *(list out specific latents)/*Item(s)____ have been forwarded for comparison. Results will follow in a separate report.

Latent print processing was discontinued at the request of the *submitting agency/prosecutor*. Processing on item _____ was completed through _____. If additional processing is needed at a later date, item _____ should be resubmitted to the laboratory.

Latent print processing was limited in this case. This decision was made in consultation with the submitting agency. Items __(list items not processed)__ were not processed for latent prints. If additional processing is needed, please contact the laboratory.

COMPARISON CASE WORDING EXAMPLES:

EVIDENCE DESCRIPTION:

Item___ (Agency Ex.) – *this should be an unambiguous description of the evidence received and should delineate any sub item numbers.*

OR

Item___ was previously processed for latent prints by *insert analyst name*: refer to the processing report for details.

CONCLUSIONS AND INTERPRETATIONS:

Latent *prints/lifts* were examined for comparable ridge detail. Latent print ___is of value for comparison. Latent *print/lift* __does not contain a sufficient amount of clear ridge detail necessary for comparison. Latent lift ___ has no ridge detail present.

Latent print___ does not contain a sufficient amount of ridge detail for identification but may be of value for exclusion.

Latent print ___ is suitable for Multi-Modal Biometric Identification System (MBIS) inquiry. Latent print ___is not suitable for Multi-Modal Biometric Identification System (MBIS) inquiry.

Latent prints of value were/Latent print ___was analyzed and compared to the known exemplars bearing the name ____.

Latent lift cards _____have comparable ridge detail at the edges of the tape. Based on the orientation of these prints and the lack of background coloration, these prints appear to have been made by the lifting officer. The prints on the edges of the tape were not marked, analyzed, or compared. – *optional statement use if applicable*

Latent print comparison was discontinued at the request of the submitting *agency/prosecutor*. If additional comparisons are needed, please contact the laboratory. ***NOTE: Comparison conclusions that have NOT been verified need to be removed from the report and notes packet (Manually amend report and uncheck "Matrix Notes" when readying the case for review).***

COMPARISON RESULTS:

Latent Print	*Name*
Unique identifier of latent print	*Conclusion*

The identification listed above was effected using the following known exemplars:
Name, SID#_____, recorded on *date* by *name of official* on behalf of the *name of agency.*

"Identified to" in the table above indicates, that in the analyst's opinion, the observed friction ridge skin features are in sufficient correspondence such that they would not expect to see the same arrangement of features repeated in an impression that came from a different source and that they have found insufficient friction ridge skin features in disagreement to conclude that the impressions came from different sources.

INCE in the table above indicates that the comparison is inconclusive to the available exemplars. The inconclusive result is due to a lack of quantity/quality of detail in the known exemplars and/or incomplete known exemplars with which to compare. In order to complete the comparison portion of this examination, it is requested that a quality set of fingerprints be submitted for _____.

INCP in the table above indicates that the comparison is inconclusive to the available exemplars. The inconclusive result is due to a lack of quantity/quality of detail in the known exemplars and/or incomplete known exemplars with which to compare. In order to complete the comparison portion of this examination, it is requested that a quality set of palm prints (including sides of palms) be submitted for _____.

INCM in the table above indicates that the comparison is inconclusive to the available exemplars. The inconclusive result is due to a lack of quantity/quality of detail in the known exemplars and/or incomplete known exemplars with which to compare. In order to complete the comparison portion of this examination, it is requested that a **quality set of complete friction ridge exemplars, i.e. friction ridge skin not typically recorded on a ten-print card** (palm prints, sides of palms, fingerprints, finger tips and fully rolled fingers with joints), be submitted for _____.

INCE/INCP/INCM may be combined if appropriate modifiers are made based on the exemplars ***needed*** *for a particular case. For example "INCP/INCM in the table above indicate that the comparison is inconclusive to the available exemplars. The inconclusive result is due to a lack of quantity/quality of detail in the known exemplars and/or incomplete known exemplars with which to compare. In order to complete the comparison portion of this examination, it is requested that a* ***quality set of complete friction ridge exemplars, i.e. friction ridge skin not typically recorded on a ten-print card*** *(palm prints, sides of palms, fingerprints, finger tips and fully rolled fingers with joints), be submitted for _____."*

INCL in the table above indicates that the comparison is inconclusive to the available exemplars. The inconclusive result is due to a lack of quantity/quality of detail in the latent print.

Excluded in the table above indicates that the latent print is excluded to the exemplars used.

All latent prints of value have been identified. – *optional statement use if applicable*

No *fingerprints/palm prints* were found to be on file for *insert name*.

PLUS

In order to complete the comparison portion of this examination, it is requested that a quality set of fingerprints (full fingers, sides of fingers, finger tips) and/or palm prints, including sides of palms, be submitted for *name*. – *optional statement use if applicable*

OR

In order to complete the comparison portion of this examination, it is requested that a quality set of complete friction ridge exemplars, i.e. friction ridge skin not typically recorded on a ten-print card (palm prints, fingerprints, finger tips and fully rolled fingers with joints), be submitted for _____.
– *optional statement use if applicable*

If a suspect/an additional suspect is developed by your agency at a later date, a fingerprint card or the appropriate suspect information should be submitted for comparison. – *optional statement use if applicable*

Latent print comparisons were limited in this case. This decision was made in consultation with the submitting agency. Latent prints ____*(list latent prints remaining)*___ were not analyzed and/or compared. If additional comparisons are needed, please contact the laboratory.

The reported result for latent print _____is a consensus conclusion. A consensus conclusion is a reported decision that reflects the collective judgement of a group of examiners in accordance with the Latent Print Section Conflict Resolution Policy.

The reported result for latent print _____is an administrative conclusion. An administrative conclusion is the most conservative opinion of a group of examiners that is being reported in accordance with the Latent Print Section Conflict Resolution Policy.

TLI HIT WORDING EXAMPLES

CONCLUSIONS AND INTERPRETATIONS:

Latent print___ was previously entered and searched through Multi-Modal Biometric Identification System (MBIS) by *the ISP Bureau of Criminal Identification/ISP Forensic Services* where SID #, *name*, was recently generated as a possible candidate.

Latent prints of value were/Latent print ___was analyzed and compared to the known exemplars bearing the name ____.

COMPARISON RESULTS:

Latent Print	*Name*
Unique identifier of latent print	*Conclusion*

The identification listed above was effected using the following known exemplars:
Name, SID# *number*, recorded on *date* by *name of official* on behalf of the *name of agency.*

MBIS/MBIS ONLY CASE WORDING EXAMPLES:

EVIDENCE DESCRIPTION:

Item___ (Agency Ex.) – *this should be an unambiguous description of the evidence received and should delineate any sub item numbers.*

Per agency request this is a Multi-Modal Biometric Identification System (MBIS) only case.

CONCLUSIONS AND INTERPRETATIONS:

The designated latent print was examined for comparable ridge detail and consideration for the Multi-Modal Biometric Identification System, MBIS.

Latent print___ is of value for comparison. Latent print __ is not of value for comparison.

Latent print___ is not suitable for MBIS Inquiry. Latent print __ is of value for MBIS.

No latent prints of sufficient quality for the Multi-Modal Biometric Identification System (MBIS) exist in this case.

Latent print___ is of value for comparison, but is not suitable for MBIS as submitted. Please submit a digital version of this photograph for MBIS consideration. - *optional use for poor quality photo printouts*

Latent print ___ was entered and searched through the Multi-Modal Biometric Identification System (MBIS) where no likely candidates were generated. *– use for no MBIS HIT*

OR

Latent print ___ was entered and searched through the Multi-Modal Biometric Identification System (MBIS) where SID#_ , *name*, was generated as a possible candidate. *– use for MBIS HIT. Use multiple statements if hits are to multiple people.*

Latent prints of value were/Latent print_____ was analyzed and compared to the known exemplars bearing the name ____.

COMPARISON RESULTS:

Latent Print	*Name*
Unique identifier of latent print	*Conclusion*

The identification listed above was effected using the following known exemplars:
Name, SID# *number*, recorded on *date* by *name of official* on behalf of the *name of agency.*

Per agency request, only the latent print that generated the MBIS HIT was analyzed and compared. All other comparisons will be completed by the submitting agency.

Latent print___ should be compared to *name* prior to MBIS entry.

DISPOSITION OF EVIDENCE WORDING EXAMPLES

Latent prints were marked and preserved. Digital images are being retained by ISP Forensic Services.

OR

Latent prints were marked and preserved. Digital images used for analysis and/or comparison are being retained by ISP Forensic Services.

____lift card was generated and retained in an Impression Evidence Packet (IEP). The IEP will be sent to the submitting agency upon completion of the comparison portion of the examination.

Item___ has been retained in the laboratory pending_____ analysis. *Use when DNA has requested item be retained*

Item___ has been forwarded to the_____ laboratory for_____ analysis.

All items will be returned to the submitting agency.

OR

Item ___ will be returned to the submitting agency.
Digitally submitted evidence will not be returned to the submitting agency.

All submitted items were previously returned to the submitting agency.

OR

Item___ was previously returned to the submitting agency.

OR

Item ___is being returned without analysis per_____.

9.9 A qualified analyst shall perform a technical/administrative review on each case.

9.10 DNA database swab collection kits needing fingerprint comparisons and verifications will be conducted as per ISPFS Latent Section established procedures.

9.10.1 DNA database swab collection kits shall be checked out from and tracked by DNA database personnel.

9.10.2 Latent section personnel will store DNA database swab collection kits in a secured location when not actively being worked.

9.10.3 Comparisons may be conducted electronically on screen or using printouts of known exemplars. Exemplars will be generated from established databases.

9.10.4 Verifications will be conducted according to Latent Print Analytical Method for Friction Ridge Examination Methodology – subsection "Verification."

9.10.5 DNA database swab collection kits that are not associated with the state identification numbers (SID#) and/or name listed on the sample will be searched through the MBIS database for possible identification. Established MBIS guidelines will be followed.

9.10.6 Non confirmed/identified DNA database kits will be returned to the Biology Section.

9.10.7 Initials and date of identification will be placed on the DNA database kit. Initials will serve as necessary confirmation documentation. Comparisons are worked outside of ILIMS and as such, no report will be generated.

10.0 Conflict Resolution

10.1 When a conflict with a suitability decision or a source conclusion occurs, the conflict and any resulting discussion or actions will be documented by the analysts in the case notes.

10.2 No analyst shall be forced or coerced into agreeing with or writing a report in support of a conclusion with which they disagree.

10.3 Conflict resolution may be required when analysts disagree on a suitability decision (suitable for comparison/IRD) or a source conclusion. Options for conflict resolution include: resolution through discussion among the conflicting analysts; blind verification, or consensus opinion.

10.3.1 When a verifier does not agree with the conclusion of the assigned analyst, they will email the following information to the Discipline Lead (Case #, Latent #, Analyst Conclusion, Verifier Conclusion). This information should be reported at the point they are ready to route the case back to the original analyst for re-examination.

10.3.2 The Discipline Lead will track and analyze this "verification discrepancy data" periodically and report the findings back to the section. Long term generation of this data will provide information on how frequently analysts ultimately arrive at a conclusion that differs from the one that was first put forward, but may also be examined for other intra or inter-analyst trends.

10.4 Re-examination/Consultation - The original analyst and verifier should attempt to resolve the conflict via re-examination and/or discussion with one another in an attempt to arrive at a mutually agreed upon conclusion that is supported by the observed data.

10.4.1 If agreement is achieved, the conflict resolution process concludes, and documentation is added to the case file.

10.4.2 If an agreement is not achieved, the disagreement is noted in the case file and the conflict may be elevated for a blind verification (analysts should refrain from imparting case or latent specific information to other analysts until a blind verifier has been assigned) or to the Discipline Lead for a panel consensus opinion.

10.5 Blind Verification in this context is the independent examination of one or more friction ridge impressions by another analyst who is provided no, or limited, contextual information, and has no expectation or knowledge of the determinations or conclusions of the original analysts.

10.5.1 The Discipline Lead or one of the original analysts in the case shall save copies of the original images (latent) needed for analysis to a shared folder outside of the digital imaging system (I Drive: Latent Section- Blind).

10.5.2 Latent numbers may be retained in the images as they are commonly repeated from case to case (1.1, 1.2, etc.). If any case numbers are present in the images these shall be removed/cropped out.

10.5.3 The blind verifier shall document their analysis conclusions on a printout of the "Latent Analysis" panel.

10.5.4 If the blind verifier deems the impression suitable for comparison, they will then be given copies of the exemplars with all identifying information (name, SID#, etc.) removed/cropped out of the image so that the blind verifier is not able to ascertain the case in question.

10.5.5 The blind verifier shall document their comparison conclusions on a printout of the "Latent Analysis" panel. All value/source conclusions shall be documented prior to any interaction with the original analyst or the verifier. This blind verifier's examination documentation will be scanned into ILIMS as part of the notes packet and their analysis and/or comparison charts will be added to the digital imaging system at the conclusion of the blind verification.

10.5.5.1 If the blind verifier agrees with the conclusion of the original analyst, the original analyst shall retain the case and issue the report.

10.5.5.2 If the blind verifier agrees with the conclusion of the verifying analyst, the case shall be reassigned to the verifying analyst for issuance of the report.

10.5.5.3 If the conclusion of the blind verifier does not align with either the original analyst or the verifying analyst (incorrect orientation, inconclusive, etc.), the Discipline Lead shall be notified.

10.6 Upon notification that the three analysts (original, verifier, and blind) were unable to come to an agreement, the Discipline Lead will schedule a mediation meeting between the involved analysts to determine if a consensus can be reached or if the case will need to be referred for an administrative (most conservative opinion reported) or consensus opinion (panel with additional analysts established). If the group agrees that an administrative or consensus opinion may be warranted – the ISPFS Quality Manager shall be consulted prior to the report being issued.

11.0 Proficiency Testing

11.1 The latent section shall conduct annual proficiency testing in latent print comparison and latent print processing.

11.2 Testing shall be in accordance with the ISPFS Quality/Procedure Manual.

11.2.1 All FSP personnel shall participate in at least one proficiency testing program annually.

11.2.2 Analysts will be proficiency tested according to the major job functions in which they are qualified (Comparison, Processing, MBIS).

11.2.3 Comparison proficiency tests shall be taken annually by each qualified analyst. Analysts qualified in Comparison, Processing, and MBIS will take a comparison proficiency test annually as well as either a Processing or MBIS proficiency test on an alternating annual basis.

11.3 Documentation of latent prints and exemplars for latent comparison proficiency tests shall be entered into the digital imaging system.

11.3.1 If multiple analysts are sharing the same test (with the same ILIMS case #), "user access controls" may be set within the digital imaging system to limit subsequent test takers' access to prior work product.

11.3.2 Analysts assigned the same test shall not share or compare results with each other prior to the reporting of results.

11.3.3 The verifying analyst for proficiency tests shall not be one of the primary analysts to whom the test is assigned.

11.4 Only case number and initials shall be documented on hard copies of proficiency tests. No annotation of identifications shall be made on paper versions due to other analysts taking the same test.

12.0 Testimony

12.1 Source identification, inconclusive and source exclusion decisions shall be represented as analyst opinions.

12.2 A conclusion provided during testimony or in a report is ultimately an analyst's decision and is not based on a statistically-derived or verified measurement or comparison to all other friction ridge skin impression features. Therefore, an analyst shall not: assert that a 'source identification' or a 'source exclusion' is based on the 'uniqueness' of an item of evidence; shall not use the terms 'individualize' or 'individualization' when describing a source conclusion; or assert that two friction ridge skin impressions originated from the same source to the exclusion of all other sources.

12.3 An analyst shall not assert that forensic latent print examination is infallible or has a zero-error rate.

12.4 An analyst shall not provide a conclusion that includes a statistic or numerical degree of probability except when based on relevant and appropriate data.

12.5 An analyst shall not cite the number of forensic latent print examinations performed in his or her career as a direct measure for the accuracy of a conclusion provided. An analyst may cite the number of forensic latent print examinations performed in his or her career for the purpose of establishing, defending, or describing his or her qualifications or experience.

12.6 An analyst shall not assert that two friction ridge skin impressions originated from the same source with absolute or 100% certainty; or use the expressions 'reasonable degree of scientific certainty,' 'reasonable scientific certainty,' or similar assertions of reasonable certainty in either reports or testimony unless required to do so by a judge or applicable law.

13.0 Safety

13.1 Safety is a primary concern of this section as well as the laboratory. Analysts are directed to the Idaho State Police Forensic Services Health and Safety Manual or the Laboratory Safety Officer for instructions regarding general safety procedures.

13.2 Latent print development techniques may utilize chemicals and reagents that are hazardous and may include known or potential carcinogens, teratogens, or mutagens.

13.3 In addition to the information included with each development technique, analysts should consult the Safety Data Sheets (SDS) for further safety information for particular chemicals. The SDS sheets for the section are located in the latent print chemical laboratory and on the I:Drive/Latent Section/SDS folder or online from the manufacturer or the following websites:

http://www.hazard.com/msds

http://www.msds.com

13.4 Analysts must use caution when handling chemicals and evidence.

13.5 The following personal protective equipment should be worn while working in the laboratory:
Lab coat or other protective clothing
Safety glasses/goggles (if applicable)
Gloves
Dust mask or respirator (if applicable)

13.6 Analysts handling firearms shall inspect each firearm to assess its loaded or unloaded condition. Analysts shall ensure that the muzzle is pointed in a safe direction at all times and shall not place a finger or other object on the trigger unless the firearm has been confirmed as unloaded. Ammunition shall be considered live and shall be safely handled, transported, and stored.

13.7 If an analyst encounters evidence that may cause a health risk (foul odor, burning sensation, loaded weapon, etc.), the item should be placed in a fume hood and the Laboratory Manager, Discipline Lead, Supervisor, or Laboratory Safety Officer contacted prior to proceeding.