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

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 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 Section 2.0 NORMATIVE REFERENCES.

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/

2.0 Definitions

ABIS – Automated Biometric Identification System; the generic term for the new generation of fingerprint matching, storage, and retrieval systems.

ABIS VALUE – an opinion decision by the examiner that the print in question contains enough information to proceed to ABIS.

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

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

ABIS DATABASES - These are various databases available to ISP Forensic Services for searching latents. These databases include Idaho, WIN, WA, CAL-DOJ, NGI, as well as other local databases.

ALTERNATE LIGHT SOURCE (ALS)/FORENSIC LIGHT SOURCE - Any light source, other than a laser, used to excite luminescence of latent prints, body fluids, etc.

ANALYSIS - The methodical examination of friction skin impressions; separation into parts so as to determine the nature of the whole. First step of the ACE-V method.

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

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 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.

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 examiner who is provided with no, or limited, contextual information, and has no expectation or knowledge of the determinations or conclusions of the original examiner.

CAE – Cyanoacrylate Ester.

CANDIDATE - An individual's fingerprint record under consideration for comparison to the latent fingerprint.

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 - Visual quality of a friction ridge 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 examiner that the print in question contains enough information to proceed to the comparison phase or proceed from processing to comparison.

COMPETENCY - Possessing and demonstrating the requisite knowledge, skills, and abilities to successfully perform a specific task.

COMPLEX EXAMINATIONS - The encountering of uncommon circumstances during an examination (e.g. the existence of high distortion, low quality or quantity, simultaneous impressions, or conflicts among examiners).

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

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

CONFLICT – A difference of conclusions that becomes apparent during, or at the end of, an examination.

CONSULTATION - a significant interaction (i.e. guidance or exchange of information) between examiners regarding one or more impressions in question that ultimately affects the analyst's opinion about the latent print.

CONSENSUS DETERMINATION OR CONCLUSION - Agreement reflecting the collective judgment of a group of examiners 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 - That 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 ABIS database (i.e. Idaho, WIN, NGI) or database section searched (e.g. Rolled, Slapped, Both, Palm, or Writer's Palm).

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.

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 exclusion.

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

EDGEOSCOPY- 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 - The incorrect determination that two areas of friction ridge impressions did not originate from the same source.

ERRONEOUS INDIVIDUALIZATION/IDENTIFICATION - 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 examiner assesses the value of the details observed during the analysis and the comparison steps and reaches a conclusion.

EXCLUSION - The determination that there is sufficient quality and quantity of detail in disagreement to conclude that two areas of friction ridge impressions did not originate from the same source.

EXCLUSION ONLY VALUE – an opinion decision by the examiner 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.

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 exclusion conclusion.

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

FEATURES – Distinctive details of the friction ridges, including Level 1, 2, and 3 details.

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 (MORPHOLOGY) - An area composed of the combination of ridge flow, ridge characteristics, and ridge structure.

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.

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 – Definitive knowledge of the actual source of an impression.

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

HIT – likely candidate generated as the result of an ABIS search.

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

IDENTIFICATION/INDIVIDUALIZATION - The decision by an examiner that there are sufficient discriminating friction ridge features in agreement to conclude that two areas of friction ridge impressions originated from the same source. Individualization of an impression to one source is the decision that the likelihood the impression was made by another (different) source is so remote that it is considered as a practical impossibility.

ILIMS – Idaho Laboratory Information Management System.

IMAGE PROCESSING - the process of digitally developing an image to improve the visibility of detail present.

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 - The inability to either individualize or exclude an area of friction ridge detail.

INTERDIGITAL – the fleshy portion of the palm located directly below the fingers.

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

IRD – insufficient ridge detail.

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

KNOWN PRINT (FINGER, PALM, FOOT)/EXEMPLAR - A recording of an individual's friction ridges with black ink, electronic imaging, photography, or other medium on a contrasting background.

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

LI – ABIS term for Latent Inquiry.

LI_COMBO – ABIS term for Latent Inquiry followed by automatic registration in the unsolved latent database when no HIT is generated.

LIP – ABIS term for Latent Inquiry Palm.

LIP_COMBO – ABIS term for Latent Inquiry Palm followed by automatic registration in the unsolved latent database when no HIT is generated.

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).

LR - ABIS term for Latent registration in the unsolved latent database.

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.

MINUTIAE - Events along a ridge path, including bifurcations, ending ridges, and dots (also known as Galton details).

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

NCIC CLASSIFICATION - An 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 – ABIS term for the FBI's Next Generation Identification system that replaced IAFIS.

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

NON-POROUS - Non-absorbent.

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.

ORIGINAL IMAGE –an accurate replica (pixel for pixel) of the primary image.

PALM PRINT – An impression of the friction ridge of all or any part of the palmar surface of the hand.

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

PATTERN TYPE – 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.

PLASTIC PRINT - Friction ridge impression of unknown origin 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 - A study of the size, shape, and arrangement of pores.

POROUS - Absorbent.

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 recording of an image onto media.

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

PROFICIENCY - The ongoing demonstration of competency.

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

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

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

RDP –ridge detail present.

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

RELATIVE POSITION - Proximity of characteristics to each other.

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 uniqueness of friction ridge skin and its use for personal identification.

SEQUENTIAL PROCESSING - Use of a series of development methods in a specific order to maximize development of friction ridge detail.

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.

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, and scar features).

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

SUITABLE - 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 - ABIS term for 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.

VERIFICATION - The independent confirmation of the ACE process as utilized by a subsequent qualified examiner to either support or refute the conclusions of the original examiner.

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.

REFERENCES:

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

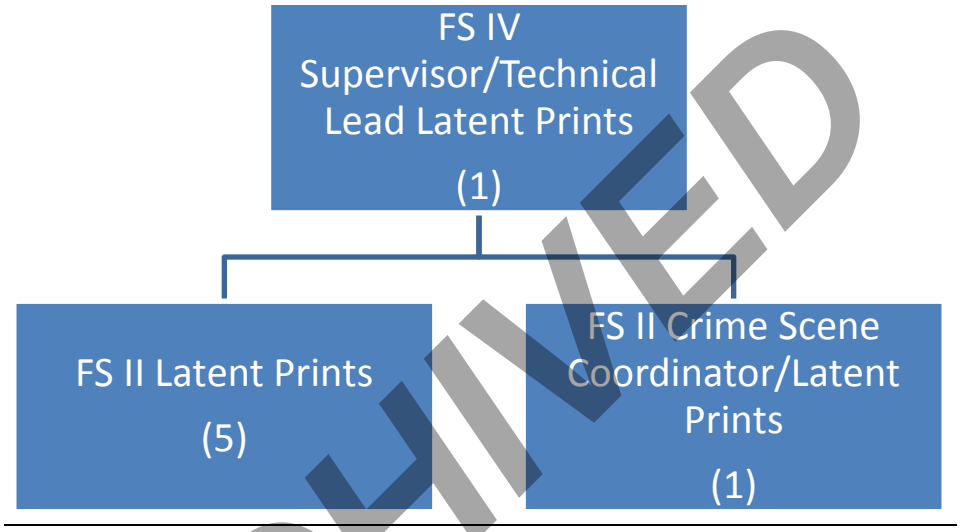
SWGFAST Individualization/Identification Position Statement, 3/06/2012 ver. 1.0

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/TECHNICAL LEAD

4.1.1 The Latent Program Supervisor is responsible for ensuring that personnel adhere to established analytical methods, safety practices, and laboratory policies and procedures.

4.1.2 The Latent Program Supervisor shall ensure that analysts' training records are on file with the Quality Manager.

4.2 FORENSIC SCIENTIST

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 Development of friction ridge impressions;

4.2.2.2 Documentation of visible or developed friction ridge impressions;

4.2.2.3 Digitally preserving and processing friction ridge impressions;

4.2.2.4 Analysis, comparison, and evaluation of friction ridge impressions;

4.2.2.5 Verification of compared friction ridge impressions;

4.2.2.6 Performing ABIS;

4.2.2.7 Issuing reports of examination activities;

4.2.2.8 Performing technical and administrative casework reviews;

4.2.2.9 Obtaining known exemplars from living and deceased subjects;

4.2.2.10 Responding to crime scenes to the extent to which they are trained;

4.2.2.11 Satisfactorily completing annual proficiency tests;

4.2.2.12 Presenting expert testimony in court.

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) or by analysts in response to an ABIS 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, case priority (i.e. crimes against persons, impending trial date), and current case load.

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

5.4 Analysts are responsible for the security and integrity of all evidence transferred into their custody by Forensic Evidence Specialist staff.

5.5 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).

5.6 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.

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

5.8 All evidence should be examined on a clean workstation covered by butcher paper.

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

5.8.2 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.

5.8.3 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.

5.8.4 Each item of evidence should be evaluated by the analyst to determine the potential for other types of evidence. In the event that other evidence may be present on an item, the analyst may contact the agency and/or an analyst from the appropriate discipline to determine how to proceed.

5.9 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.

5.10 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.

5.11 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.

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

5.12.1 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 shall be noted in ILIMS.

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

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

5.13 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.

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

5.13.2 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.

5.13.3 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.

5.13.4 Tissue should be refrigerated if possible.

5.13.5 **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.

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

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

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

5.15 All submitted evidence including any derived latent lift cards will be returned to a Forensic Evidence Specialist (FES) staff for return to the submitting agency.

5.15.1 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.

5.15.2 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.

5.16 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 shall 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.

6.3 Validation/performance verification data, results and summaries for those 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 chamber
Fingerprint development chamber

7.5 General routine, maintenance such as wiping off the outside of an instrument, cleaning the glass on flatbed scanners, 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. These 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).

7.7.2 **Mini –Crimescope MCS-400**

The wheels may be opened with a screw driver 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).

7.7.3 **Ominchrome Omniprint 1000 A**

Remove the cover and use compressed air to remove debris. Clean fan air filter by removing from the instrument and rinsing with tap water. Allow filter to dry completely and replace (document on instrument maintenance log).

7.7.4 **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.

7.7.5 **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 log).

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).

Balances and ASTM weights used for checks are calibrated yearly by an outside source and are stored in the chemistry section of the laboratory.

7.7.6 **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.

7.7.7 **CAE Fuming Chambers – Air Science**

The chamber shall be cleaned monthly and as needed using soapy water or CAE cleaner (document on monthly QC log).

The humidifier wick filter shall be inspected monthly and replaced as needed. Filter replacement schedules for these instruments are based on frequency of use. For the CA30, small chamber, the main carbon filter (ASTM-001) should be replaced annually with pre-filters (ASTMT-PRF & CA-PRF) changed every three months. For the CA60T, large chamber, the main carbon filter (ASTM-001) should be replaced every two to four years with pre-filters (ASTMT-PRF & CA-PRF) changed every six months to one year. 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 and 100 cycles for the prefilters. The proceeding shall be documented on the instrument maintenance log.

7.7.8 **Chemical Exhaust Hoods (commercially purchased hoods)**

The impression evidence section currently has three of these 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 commercially purchased hoods is at least 100 feet/minute. Capture velocity at the open face of the sink hoods ranges between 75-100 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.

7.7.9 **Fingerprint Development Chamber – Caron 6105**

The distilled 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 distilled, di-ionized, or nano-pure water. The chamber should be cleaned monthly (document on monthly QC log).

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, 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.

7.7.10 **Krime Site Images (KSI)**

For KSI maintenance see analytical method.

7.7.11 **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.

7.7.12 **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 replacement schedule for this instrument is every three months or 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.

7.7.13 **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 attach the product housing.

7.7.14 **SCANNERS**

Flatbed Scanners – Epson V850 Pro & 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.

Fujitsu ScanSnap ix500

To clean the outside of the unit, turn the scanner off and unplug the power cord. Clean the outside of the Scan Snap with a dry cloth or cloth moistened with cleaner/mild detergent. Be careful not to get any moisture or water inside the scanner during cleaning.

It is recommended that the inside of the scanner be cleaned when streaking occurs on scans. To clean the inside of the unit, turn the scanner off, unplug the power cord, and wait at least 15 minutes for the unit to cool. Clean the pick rollers, brake rollers, idle rollers, ultrasonic sensor, and wipe off all glass surface areas. See user manual or Fujitsu website for location of parts. Clean with a lint free cloth and Fujitsu F1 cleaner or lint free cloth moistened with isopropyl alcohol. Do not use canned air. Cleaning the inside of the scanner shall be documented on the instrument maintenance log.

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 Section Supervisor.

8.3 Reagents prepared in-house will be made with great 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.

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 may not have been used within the given laboratory within the prior six month period shall have the appropriate controls for the method 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 Expired or unsatisfactory chemicals/reagents 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 A brief description of the individual contents of the package should 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 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 print lifts 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 Latent print examination documentation shall include which prints were analyzed, compared, evaluated, and the conclusions reached.

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

9.5.4 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.

9.5.4.1 Each latent impression analyzed shall have an individualizing numeric designation (1.1, 1.2., etc.).

9.5.4.2 The comparison value of each impression will be documented. If the examiner changes the "of value" decision, it shall be documented along with the reason for changing the "of value" decision. Any conclusions reached up to the point the examiner changes the "of value" decision shall be documented.

9.5.4.3 Documentation of latent impressions marked of value shall include the following if known; anatomic source of the impression (fingertip, palm, etc.), anatomical orientation, pattern if discernible (loop, whorl, etc.), level of clarity (1, 2, 3) substrate, development medium, and preservation method. It may also include matrix, deposition pressure, lateral movement, rotational movement or other friction ridge skin details, if known.

9.5.4.3.1 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.

9.5.4.4 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.

9.5.4.5 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.

9.5.4.5.1 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).

9.5.4.5.2 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.

9.5.4.5.3 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 should be based on the complete exemplars and not 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.).

9.5.4.5.4 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 individualization), the identity of the examiner(s), and date of consultation. If examiners have significant interaction on a particular print, the consulted examiner shall not be used as the verifier for that particular print.

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

9.5.4.6.1 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.

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

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

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

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

9.6.1 When the laboratory cannot ensure that the original latents 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.

9.6.1.1 Case documentation shall contain replications or electronic scans of all latent lift cards submitted by the customer. All latents deemed of value for comparison shall be preserved in the digital imaging system.

9.6.2 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.

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

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

9.7.1 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.

9.7.2 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).

PROCESSING ONLY CASE WORDING EXAMPLES:

EVIDENCE DESRIPTION:

Item _ (Agency Ex.) – *this should be a brief description of the evidence received and should delineate any sub item numbers.*

CONCLUSIONS AND INTERPRETATIONS:

Item - was processed for latent prints.

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)__ have been forwarded for comparison. Results will follow in a separate report.

COMPARISON CASE WORDING EXAMPLES:

EVIDENCE DESRIPTION:

Item _ (Agency Ex.) – *this should be a brief 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/lift* __does not contain a sufficient amount of clear ridge detail necessary comparison. Latent print ___is of value for comparison.

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

Latent print ___was analyzed and compared to the known exemplars bearing the name ____ .

COMPARISON RESULTS:

Latent Print	*Name*
Unique identifier of latent print	

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.*

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

No latent prints of sufficient quality for the Automated Biometric Identification System (ABIS) exist in this case. – *optional statement use if applicable*

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

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 major case prints (palms, full fingers, sides of fingers, finger tips) be submitted for *name*. – *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*

TLI HIT WORDING EXAMPLES

CONCLUSIONS AND INTERPRETATIONS:

Latent print _ was previously entered and searched through the Automated Biometric Identification System (ABIS) by *the ISP Bureau of Criminal Identification/ISP Forensic Services* where SID # *number*, *name*, was generated as a possible candidate.

Latent print ___was analyzed and compared to the known exemplars bearing the name ____.

COMPARISON RESULTS:

Latent Print	*Name*
Unique identifier of latent print	

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.*

ABIS ONLY CASE WORDING EXAMPLES:

EVIDENCE DESRIPTION:

Item _ (Agency Ex.) – *this should be a brief description of the evidence received and should delineate any sub item numbers.*

Per agency request this is an ABIS only case.

CONCLUSIONS AND INTERPRETATIONS:

The designated latent print was examined for comparable ridge detail and consideration for the Automated Biometric Identification System, ABIS.

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

Latent print __ is not suitable for ABIS Inquiry. Latent print __ is of value for ABIS.

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

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

OR

Latent print _ was entered and searched through the Automated Biometric Identification System (ABIS) where SID# , *name*, was generated as a possible candidate. – *use for ABIS HIT*

Latent print ___was analyzed and compared to the known exemplars bearing the name ____.

COMPARISON RESULTS:

Latent Print	*Name*
Unique identifier of latent print	

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.*

Latent print _____ should be compared to *name* prior to ABIS entry.

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

DISPOSITION OF EVIDENCE WORDING EXAMPLES

Latent prints were marked and preserved. Digital images are being maintained 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 for _____ analysis.

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.

All submitted items were previously returned to the submitting agency.
OR
Item ____ was previously returned to the submitting agency.

9.8 A qualified analyst shall perform the technical and administrative review on the case.

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

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

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

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

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

9.9.5 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 ABIS database for possible identification. Established ABIS guidelines will be followed.

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

9.9.7 Initials and date of analysis 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 Proficiency Testing

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

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

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

10.3.1 If multiple analysts are sharing the same test, "user access controls" may be set within the digital imaging system to limit subsequent test takers' access to prior work product.

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

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

10.4 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.

11.0 Safety

11.1 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.

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

11.3 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 a yellow binder in latent print chemical laboratory and are available online from the manufacturer or the following websites:

http://www.hazard.com/msds

http://www.msds.com

11.4 Analysts must use caution when handling chemicals and evidence.

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

11.6 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, Section Supervisor, or Laboratory Safety Officer contacted prior to proceeding.