

## *In The Wake of The Langill Decision*

Earlier this year, the New Hampshire State Police Forensic Laboratory (NHSPFL) learned that its most recent Daubert hearing, *State v. Richard Langill*, had become a little more complex than previous admissibility challenges. On January 19, 2007, Justice Patricia C. Coffey of the Rockingham County (NH) Superior Court ruled on whether a single latent impression identification, which placed a suspect in the home of a burglary victim, could be introduced at trial. Justice Coffey ultimately granted the defendant's Motion to Exclude and precluded the lab's fingerprint examiner from offering her opinion to a jury. Although Justice Coffey stated that the science of fingerprint identification was reliable, she felt that the examiner's application of the ACE-V methodology to the single latent impression was "unreliable as a result of incomplete documentation and possibly biased verification."

Many of the general facts of the case and Justice Coffey's decision are outlined in an article from *The Weekly Detail* (no. 285, 2007) entitled "Judge Grants Motion to Exclude Latent Fingerprint Evidence." Since the issuance of the ruling, the Identification Unit (IDU) of the NHSPFL has been involved in several strategy meetings on various fronts: within the section, with the Rockingham County Attorney's Office (prosecution) and with the NH Attorney General's Office. It was decided that the prosecution would petition Justice Coffey to revisit her decision by filing a Motion for Reconsideration. This motion was a thirteen-page, collaborative effort and had additional supporting documentation which included: 1) an Affidavit written by the entire NHSPFL IDU (signed by the case examiner Criminalist II Lisa Corson, CLPE); 2) an Affidavit from the NHSPFL QA/QC Manager and; 3) a Memorandum of Fact to the court describing a phone survey conducted by the NHSPFL IDU. The Motion for Reconsideration outlined the case, cited pertinent case law and stated many of the points contained in the supporting documents.

The IDU Affidavit first addressed examination documentation via contemporaneous written notes. It explained how latent print examinations are not unlike examinations in "traditional science" or other disciplines within forensic science. For example, we described how a drug chemist compares two spectra to determine if they are of the same substance. This is accomplished by examining two side-by-side spectra, one of an unknown substance and one of a known substance, and subsequently arriving at a conclusion based on the comparison of the relative intensity and distances between peaks within the two spectra. This scientific conclusion is based on the training and experience of the scientist and no part of the mental process is documented via contemporaneous written notes; only the final conclusion. Many other disciplines within the field of forensic science conduct examinations using this same generally accepted and scientifically reproducible approach while being bound by the same quality assurance protocols. Some of these disciplines include: drug toxicology, blood alcohol, paint, ignitable fluids, firearms, toolmarks, glass, footwear, tire, and DNA.

Concerning written notes, the IDU Affidavit also addressed the complexities of documenting what an examiner sees during the analysis of an impression. Besides the traditional Level II (i.e., Galton) details, examiners also evaluate Level III details such as: ridge path, ridge shape, edges, thickness, tapering, angles of intersection, pores, incipient ridges, not-to-mention – creases, wrinkles, scars, and warts in arriving at a conclusion. In

addition to these present characteristics, there is also value given to an absence of characteristics. For example, an “open field” occurs when there are two Galton characteristics separated by a number of intervening ridges in which no other Galton characteristics are present. This absence is a “characteristic” in itself and adds weight towards the conclusion of exclusion or identification. Handwritten documentation of all present characteristics in addition to all possible combinations of absent characteristics in a latent impression is an impossible task.

Furthermore, written notes of the mental process of the initial examiner would be of no practical use to a second examiner. A verifying examiner would never be able to look at handwritten notes and subsequently come to a conclusion on a latent print identification because this would introduce bias. An identification is always effected by the comparison of images which would constitute a comprehensive reexamination of the raw data. Review of written notes is not necessary for the second examiner to come to a conclusion, nor is it commonly practiced.

Because Justice Coffey ruled that according to our own procedures “an examination must always be contemporaneously documented” (which is true), the IDU Affidavit highlighted the information that actually was contemporaneously noted in the *Langill* case file. Criminalist Corson recorded contemporaneous bench notes with regards to: date, submitting agency, chain-of-custody, packaging integrity, package markings, seal integrity, package contents, class characteristics of the friction ridge detail (Level 1, ridge flow and anatomical designation), whether the impression contained sufficient quality and quantity of information (Levels 2 and 3), the orientation of the friction ridge detail, the steps of digital processing (enhancement done in Adobe Photoshop), comparison subject’s name, subject’s date-of-birth, finger number, copies of all known impressions used for comparison, verifying examiner and verification date. Additionally, the actual application of the ACE-V methodology on the impressions in the case was also noted in the case file. There is no need to further document “ACE-V” as it is defined and described in various NHSPFL IDU protocols. An examiner is not creating a recipe that must be written down to remember, but rather, following a recipe (SOPs) and documenting the results.

Blind verification was then addressed. The IDU Affidavit began by first defining blind verification as the process which occurs when a second examiner reevaluates data and forms an opinion without having knowledge of the first examiner’s conclusions. It was noted that blind verification is not required by ASCLD/LAB or SWGFAST and that it was not mentioned as part of the ACE-V methodology as seen in works such as David Ashbaugh’s Quantitative-Qualitative Friction Ridge Analysis. Simply stated, blind verification is a quality assurance technique that exceeds requirements set forth by ASCLD/LAB.

Also addressed was the unproven affects of the practice of blind verification. Just because a few works (the OIG report, the Stacey report, and Simon Cole’s book) state that blind verification is essential for a fingerprint identification, it does not necessarily mean that it is scientifically justified, warranted, or required in any manner to form an opinion of individualization. No formal studies to date have been published citing the measurable benefits of blind verification over traditional methods of verification.

Our QA/QC Manager began her Affidavit by describing ASCLD/LAB and how the accreditation process works. She outlined ASCLD/LAB requirements concerning note taking and reported the results of an administrative review of the *Langill* case file. Additionally, this document described the NHSPFL Quality Assurance policy addressing case documentation and case review and discussed how protocols were written to comply with the standards and criteria set forth in the ASCLD/LAB Manual.

The QA/QC Affidavit cited the ASCLD/LAB 2005 Manual which describes: 1) how examination documentation is usually generated by a laboratory and, 2) the various acceptable ways to document the basis for conclusions derived from evidence examination. With regards to latent print examination documentation, the Manual specifically states:

- *It is not required that the examination documentation provide a detailed description of the thought process involved in the analysis, comparison or evaluation. However, examination documentation must include which prints were analyzed, compared, evaluated and conclusions reached. Examination documentation must also acknowledge the existence and disposition of any captured latent prints which are not analyzed, compared or evaluated. When individualization is made, the original or a legible reproduction of the known exemplar must be retained as part of the case record.*
- *Images of the latent prints determined to be of value are needed for another competent examiner to evaluate what was done or interpret the data. Narrative descriptions, diagrams and drawings of latent prints alone are insufficient.*

Next, the QA/QC Affidavit described how the NHSPFL IDU's procedures and associated worksheets were designed to appropriately conduct and document forensic fingerprint examinations to meet the quality assurance requirements set forth by ASCLD/LAB. During the accreditation process, an inspection team conducted a thorough review of case files, including all notes and data generated by NHSPFL examiners. The casework was deemed as having met all of the requirements and the NHSPFL was awarded our ASCLD/LAB Accreditation in 2004.

Finally, the QA Affidavit outlined a technical review of the *Langill* casefile and found that:  
*Criminalist Lisa A. Corson did take contemporaneous and complete notes with the work performed in the ACE-V methodology as is dictated by ASCLD/LAB established standards, NHSPFL policies and procedures and as generally accepted by the scientific community of crime laboratories and fingerprint examiners.*

In addition to the two Affidavits, there was a Memorandum of Fact provided to the Court summarizing a telephone survey of other forensic science laboratories conducted by the NHSPFL IDU. There were a total of forty-two labs representing 38 states and Canada participating in the survey. The labs were queried about their standard operating procedures concerning contemporaneous note taking during the decision making process and the practice of blind verification.

Results of the phone survey showed that:

- None of the forty-two laboratories required written contemporaneous notes to document the mental process during the Evaluation phase of the ACE-V methodology.
- Only one laboratory was conducting blind verifications in which the verifying examiner does not know the outcome of the initial examiner's conclusion. The FBI Laboratory in Quantico, Virginia has written protocols requiring blind verification in cases which involve a single conclusion (identification, exclusion or inconclusive). This encompasses roughly 5% of their cases.
- The remaining forty-one laboratories (97.62%) in the study did not require and practice true blind verification.

On February 9, 2007 the Motion for Reconsideration was filed with the court. We are awaiting a ruling from Judge Coffey sometime in the near future. The trial, originally scheduled for late March, has been continued with no date set at the time of this writing. In the meantime, the NHSPFL IDU has "clarified" some of our SOPs by adding (aforementioned) verbiage straight out of the ASCLD/LAB manual specifically regarding contemporaneous note taking. What effect this will have in the current case is yet to be seen, but at least it is there for cases from today forward.

Good science dictates that one should not just employ new protocols without proper research, and thus, the NHSPFL is not changing protocols requiring additional note taking or blind verification. Concerning protocol development, we may do some beta testing and go above-and-beyond what SWGFAST states and far exceed what ASCLD/LAB requires, but no immediate reaction will be done at this juncture. We are currently in arduous talks concerning the future of the IDU and what the implementation of blind verification would have on casework within the section as well as other sections throughout the lab.

The act of looking at data (photo of print, drug spectra, bullets, hairs, fibers, alleles) and coming to a conclusion without taking "contemporaneous written notes on the mental process" troubles everyone because that's what everyone does; compares questioned to knowns. A clever defense attorney could easily make the connection between disciplines. In the time since the *Langill* decision, one of our Toxicologists was questioned on the stand at a recent DUI hearing concerning her note taking during the mental process of her decision making. The judge instructed the defense lawyer to drop that line of questioning. Also recently, a federal prosecutor from the NH Office of the United States Attorney phoned and was voicing concern over an upcoming drug trafficking trial to determine if the drug chemist had documented his notes on the mental process in the fashion that Judge Coffey had described. Even chemistry, traditionally considered an untouchable "hard science," is as susceptible as any other discipline. Remember that Justice Coffey ruled that the *science* was good, just that the *examiner* did not apply the methodology reliably.

It is only a matter of time until Daubert comes to a court near you. It may not be labeled as "Daubert" but the questions will be the same. No matter what discipline you practice, it is imperative that you are prepared to answer questions concerning these issues. Examiners must be ready to defend their science, their protocols and methodology every time they offer testimony.

Written by:

Stephen H. Ostrowski, MSFS, CLPE  
Criminalist II  
New Hampshire State Police Forensic Laboratory  
33 Hazen Drive  
Concord, NH 03305  
ph.: 603.271.3573  
email: [sostrowski@safety.state.nh.us](mailto:sostrowski@safety.state.nh.us)