

President's Message

Joyce A. Lauterbach

Contents

Current Research	2
It Goes Without Saying... <i>Not</i>	3
Recent Court Decisions - Rule 26	4
The New U.S. Postal Money Order	5
How would you answer this in court?	6
Writing Ink Examinations	7
Frye-Mack Hearing	8

An updated and current Directory of Diplomates—the listing that contains our Diplomates' addresses and phone numbers—has been posted on the members-only page on the ABFDE website.

The current Rules and Procedures Guide is also posted on the website. I encourage everyone to visit abfde.org, print the current Rules and Procedures Guide and the updated Directory of Diplomates, and update your green book.

Previously the ABFDE printed the ABFDE brochure and maintained a supply at the ABFDE Administrative Office in Houston. The brochures could be purchased when they were made available at professional meetings, or they could be ordered from the Administrative Office. The printing and high quality card stock used for the brochures were expensive, and this resource was not well utilized. Then if amendments were needed, it required disposal of outdated brochures; and the cost of printing was once again incurred. Thanks to Dennis Ryan, Kathleen Nicolaidis, and Dave Oleksow, the brochure was reviewed and updated. The brochure is now posted on the members-only page of the ABFDE website in two formats; i.e., either for a direct front-and-back format, or in a format that can be folded. The brochure may be used by any Diplomate, but we respectfully insist that you use a tasteful, high quality paper or card stock for printing the brochures. The ABFDE brochure is a reflection not only on you personally but is also a reflection of the ABFDE as an organization.

If you do not know or do not remember the password for the members-only page, please contact me or the web editor.

The Professional Review Procedures are being reviewed. In particular, one revision not yet adopted but which will most likely be included is an Arbitration Agreement that

(continued on page 10)

Current Research

by Tom Vastrick

In response to judicial comments and other attacks on the profession, a group of dedicated forensic document examiners has banded together with the goal of establishing frequency occurrence statistics in handwriting and hand-printing characteristics. The group currently consists of Tom Vastrick, Joe Parker, Karen Runyon, Ellen Schuetzner, Kirsten Singer, Kathleen Storer, and Dave Oleksow. It is expected that many other examiners will be asked to participate as the project develops.

The large-scale research project will utilize the services of statisticians in order to utilize proper statistical formulas and program developers to create an easy-to-use end product that document examiners will be able to use in their examinations. Tom Vastrick will be meeting with the Statistics Department at The University of Central Florida sometime in January to obtain their assistance in the project. Issues that need to be resolved statistically include variation, number of specimens, sub-populations, interrelationship of characteristics to the product rule, and specimen requirements, just to name a few.

If you receive a call from one of this group seeking your assistance and participation, please give the request serious consideration. It is important that we meet current challenges to our profession with straight answers and with the backing of science and statistics.

Editor Lisa M. Hanson
Associate Editor Jason Lee Miller

Contributors

President Joyce A. Lauterbach
Susan Morton
Larry Olson
Gerry Richards
Kirsten Singer
Tom Vastrick
Todd Welch

Composer
IntelliType

2008-2009 Board Officers

PRESIDENT.....Joyce A. Lauterbach
VICE PRESIDENT..... Donna Eisenberg
SECRETARYDavid L. Oleksow
TREASURER Jeffrey Taylor

2008-2009 Committee Chairs

CONTINUING EDUCATIONA. Frank Hicks
CREDENTIALSDavid L. Oleksow
FSAB Dennis Mooney
HISTORIANDavid L. Oleksow
NEWSLETTER EDITOR Lisa M. Hanson
PRC Donna Eisenberg
PUBLIC RELATIONS Dennis J. Ryan
RECERTIFICATION Donna Eisenberg
RULES & PROCEDURES..... Dennis Mooney
TEST PREPARATION & VALIDATION Carl McClary
TESTING..... Donna Eisenberg
WEBMASTER.....William Leaver
WORKSHOP COORDINATOR.....L. Jim Josey



Send contributions to:
Lisa M. Hanson, Editor
ABFDE News
1031 Eagle Ridge Trail
Stillwater, MN 55082
Tel (651) 398-4549
Fax (651) 793-2901
lisa.hanson@state.mn.us

Deadline for the next issue is:

March 20th

www.abfde.org

It Goes Without Saying...Not

by Susan Morton, WOC¹

Every now and then someone makes a presentation about ethics and how nice they are and how we all ought to have them. We sit there politely and think: true but banal. Blah, blah, blah. Who would think of tampering with evidence, lying under oath, or misrepresenting facts?

Well, it turns out we need to have those talks because real, actual humans you know will do those things. Before your very eyes someone you had hitherto respected will get backed into a corner and do something desperate and stupid. You may even find yourself in that spot. I have several times. I screwed something up, or someone I wanted to protect screwed something up. There was a temptation to try to lie my way out of it. Try to cover it up. Fortunately, I did not succumb to that temptation. I am not sure whether this is due to innate honesty or the sure and certain knowledge that I would get caught and things would be even worse. Better to suck up a small pill now than a large lump later. Bill I-never-had-sex-with-that-woman Clinton and Scooter I-never-leaked-that-CIA-agent's-name Libby will confirm this wisdom. Bill will confirm it now and Scooter as soon as he gets out of the slammer. My virtue may be iffy, but paranoia keeps me on the path of the straight and narrow.

Whatever works.

It is important to have these talks about ethics because you need to have a plan of action ahead of time. Situations come up suddenly. They are often charged with emotion, making it hard to think straight and see the big picture. They may not be of your making, but you get dragged into them. You have to think about these things when the heat is not on so you will know what to do when it is.

Fortunately both history and current events offer many instructive lessons in the consequences of both good decisions and bad ones.

Bill and Scooter are not alone in the latter category. Examples of bad decisions abound because they tend to make the news. I am sure it seemed like a good idea at the time, but having the benefit of hindsight, we tend to giggle and wonder, "What were they thinking?" Most likely the answer to that is: they weren't. Or they were thinking in the very short term. Taking the long view might have led to different results.

It takes a great deal of courage to make a hard decision to do the right thing. Janet Reno did it after Waco. There was a firestorm of criticism after the agents stormed the Branch Davidians compound and it burned with much loss of life, including many children. Janet Reno stepped up to the plate and said, "I made that decision and it was wrong. I take full responsibility." She did not hide behind the passive voice, "Mistakes were made." She did not try to cover it up or excuse it. Her stand quieted the firestorm. There was still much criticism, but even her opponents had to respect her. By quelling the rhetoric, she paved the way for a real and thoughtful analysis of what went wrong so it could be prevented from happening again. (This enabled us to make a whole different set of mistakes at Ruby Ridge.)

Even the Watergate morass offered an example of honor. When the Special Prosecutor, Archibald Cox, started to get close to Nixon's bagmen, Nixon called up Attorney General Elliot Richardson and told him fire Cox. Richardson refused to obey that order and was summarily fired. His second in command William Ruckelshaus also refused to fire Cox and was himself fired. Two honorable men lost their jobs and gained the admiration of the nation.

So think about these things when it is calm. Picture yourself in the situation that Richardson and Ruckelshaus faced. Your boss is ordering

(continued on page 10)

Recent Court Decisions – Rule 26

by Kirsten Singer

Two federal court decisions made this year (January and March) should be front and center on the radar of all forensic document examiners (actually, all expert witnesses could benefit from the knowledge of these decisions).

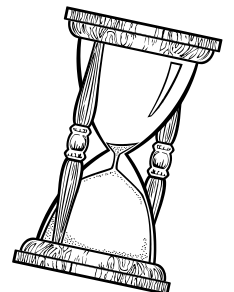
In January 2008, the U.S. District Court for the Northern District of Georgia issued a decision regarding, among other issues, the plaintiff's request to strike a document examiner's report because it did not comply with Rule 26 of the Federal Rules of Civil Procedure which requires a complete description of the examiner's methodology or opinion basis. Although the judge granted the defense additional time to supplement the document examiner's report, the second attempt still failed. Rule 26 requires the following information regarding expert witnesses: a complete statement of the expert's opinions and their bases; data or other information considered by the expert in reaching the opinion(s); exhibits used to support the opinion(s); qualifications of the witness, including authored publications in the past 10 years; compensation to be paid for the testimony; and a list of all cases in which the witness has testified as an expert. Because the revised report did not list the compensation, publications, and cases, the court dismissed the report under Rule

26. Furthermore, the court found that the document examiner did not qualify as an expert witness under Rule 702, in large part because he was not certified by the ABFDE, which the court found to be the "only recognized organization for accrediting forensic document examiners." And because the examiner's report lacked an "identifiable methodology," the Daubert factors could not be applied. For more information, see *American General Life and Accident Insurance v. Preston Ward, et al.*

In a similar decision in March 2008, the U.S. District Court for the Northern District of Illinois dismissed the report of a forensic ink chemist because it also lacked the completeness required by Rule 26 of the Federal Rules of Civil Procedure. Although the judge also granted the defense additional time to supplement the document examiner's report, their second attempt also failed. The court noted that the report did not explain the results of tests conducted or how tests and data supported the conclusions. The court concluded that the examiner's report was not helpful in explaining the methodology, "which is crucial in determining the admissibility of expert testimony at trial." For more information, see *Glenn Watts and Jimmy Jones, Plaintiffs, V. Cypress Hill, et al., Defendants.*



Best wishes to you and yours for a
Joyful and Prosperous New Year!



The New U.S. Postal Money Order

by Kirsten Singer

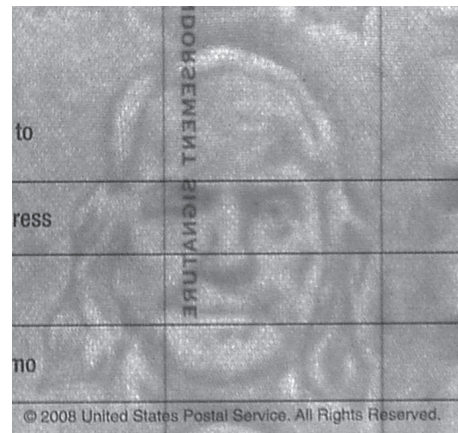
On October 27, 2008, the U.S. Postal Service began selling the newly redesigned postal money order, both a domestic version and an international version. The last redesign of the postal money order occurred over 18 years ago, and current technologies such as scanners and color printers have made counterfeiting easier and more successful through the use of inexpensive, available machines which provide better reproduction of color and detail. The explosion of global counterfeiting in the past several years has also posed a challenge to protecting high value documents, especially since many miscreants have access to high volume offset-lithography presses. Finally, the advent of “Check 21” legislation has required functional changes to the document for ease of imaging and machine-readability by financial institutions.

The most significant changes to the postal money order are the color schemes and the addition of a holographic, windowed thread. The new domestic postal money order is a combination of light green, yellow, and purple; the new international postal money order is a combination of light orange, yellow, blue, and pink.

Both kinds of money orders contain micro-printing and graphic elements intended to challenge successful reproduction using scanners and copiers. The watermark of Postmaster

General Benjamin Franklin is unchanged, as it remains a successful anti-counterfeiting security feature. The holographic thread creates its own watermarks, or “windows,” when viewed with transmitted light. The thread itself has demetalized lettering that reads “USPS” backward and forward.

Postal domestic money orders cannot exceed \$1,000 in value and international money orders cannot exceed \$700. There is no expiration date on all previously issued postal money orders.



Franklin Watermark
(back-lit)



Holographic Thread
(back-lit)

For more information and to download Notice 299 which provides information and guidelines to identify valid money orders, visit the website www.usps.com.



Domestic Postal Money Order

How would you answer this in court?

by Todd Welch and Larry Olson

Beginning back in 2006, Larry Olson and Todd Welch started a column in the MAFS newsletter. Todd has been gracious enough to share this wonderful column idea with me, and I will be adding this column to the ABFDE News whenever plausible. Please, feel free to contact me with any questions or answers you might like to share.

Todd and Larry have been posting questions that a document examiner might encounter either in regular testimony or in a Daubert/Frye/“fill-in-your-state’s-variety” hearing. This was inspired by a meeting of the Southwestern Association of Forensic Document Examiners (SWAFDE), wherein a panel of document examiners was asked a variety of questions in the setting of a mock Daubert hearing.

For example, you are asked by an attorney:

Q. What is an error rate?

Q. Has a known or potential error rate been established for handwriting identification? Why or why not?

Some of the answers received were:

“Address this question in your qualifying questions and ‘presentation of the science.’ In that way, you can control how the questions are asked and have suitable answers prepared.”

“Wait and see if the questions are even asked during the course of trial. If this is your choice, however, you should be prepared to answer whatever question is asked.”

Or there is the answer-the-question-with-another-question idea. Ask the attorney, “What do you mean by an error rate?” If counsel actually knows what an error rate is, you should have an answer prepared; however, your question is more likely to be answered by a follow-on question such as:

Q. Well, have you ever made a mistake: (to which you could reply:)

- A. I’ve made a lot of mistakes in my life, but in the ___ years I have been employed as an examiner, I am not aware of having made any analytical errors in my work.
- Q. How can the court be sure that you haven’t made a mistake in this case?
- A. I have taken all precautions against mistakes in this and all of my cases by:
- following specific standards prescribed by my field and my laboratory,
 - working in a laboratory that is accredited (if this applies),
 - having all identification opinions verified by another examiner,
 - having each case reviewed (by my supervisor/quality control manager, etc.) before it leaves the lab, and
 - taking a proficiency test in my field each year (include specifics, if desired).
 - In addition, I am prepared to demonstrate my findings and conclusions before the court.

This past September at the MAFS meeting, during the QD Symposium, Larry Olson gave a presentation of the arguments in the January 2008 paper, “The Individualization Fallacy in Forensic Science Evidence”¹ by Michael J. Saks and Jonathan J. Koehler. In this article, the authors assert that science has not proven that anything is unique and that forensic examiners exaggerate when they state they can identify an object/person to the exclusion of all others in the world. As you can imagine, a good discussion followed.

So for this edition of “How would you answer this in court?”, if you were confronted with any of the following statements in court, how would you refute them (other than the obvious “I do not regard this paper as authoritative.”)? Remember, send your thoughts and answers to Lisa Hanson and we will examine all the answers received in our next edition of the

(continued on page 9)

Writing Ink Examinations Using Near-infrared Reflected and Luminescent Techniques

by Gerald B. Richards

The examination of writing inks has been occurring for over 100 years. For approximately half of this time, examinations were conducted mostly in the visible portion of the spectrum using both low-power and high-power magnification. It was not until the 1950s that the widespread use of near-infrared reflectance, and particularly near-infrared luminescence, were used to differentiate inks samples.

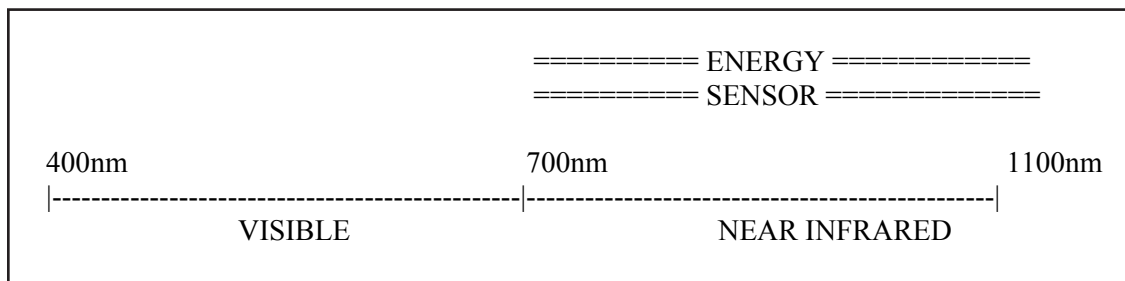
In numerical terms, the spectrum consists of waves that are measured from peak to peak in nanometers, with a nanometer being one billionth of a meter (25.4 millionths of an inch). The visible spectrum is considered from deep blue–400 nanometers, to deep red–700 nanometers. That is what our eyes can see. The near-infrared portion of the spectrum used by FDEs is 700 to 1100 nanometers. This portion of the spectrum is just past our red vision and invisible to our built-in sensors, the human eyes. Both types of near-infrared examinations use sensors (film, TV tubes, CCD camera chip) that are sensitive to the near-infrared portion of the electromagnetic spectrum. However, these sensors are also sensitive to the visible spectrum, so filters are placed over the camera lens so

that only infrared energy is allowed to enter the camera.

Near-infrared Reflectance

The term reflectance is a generic term that describes the reaction between a light (energy) source and an object. These reactions are generally described as follows for an ink examination:

- The illuminating energy (light) and sensor are, for the most part, both in the same, or infrared, portion of the spectrum.
- Ink absorbs the light and appears dark relative to the paper which reflects the light and appears light. This is a common occurrence. If the ink only absorbs a portion of the light, and reflects a portion, it may appear gray against the light paper.
- If the ink were to reflect the infrared more than the paper, then the ink would appear light, on a relatively gray or dark background. It is rare that an ink reflects significant infrared.
- The ink may transmit the light (like a piece of glass in the visible spectrum) and therefore becomes transparent. This also is a common occurrence.



(continued on page 11)

One Summer and a Frye-Mack Hearing Later

by Lisa Hanson

During the summer of 2007, I worked a homicide case involving many handwriting examinations and several indented-writing examinations. The questioned writing was natural and fluent, and the ESDA lifts were clear and precise. I had been notified that there might be a Frye-Mack challenge on the questioned document evidence and the defense might also Frye-Mack the latent print evidence.

Things went on as usual. The defense ran our crime scene leader through the usual gamut. Requests were made for copies of all procedures, methods, reports, and notes, along with coming in and visualizing all the evidence that was examined (all 192 items).

The defense stretched things out as long as possible; and then one month before the Frye-Mack trials were to begin, I got a phone call from my attorney telling me that some professor from Seton Hall was coming as an expert for the defense. The call came in on August 4 and the trial was set to begin on August 29.

After reaching out to the Daubert group and many other examiners, I began going through the many piles of briefs, articles, and motions that everyone sent me. I can say thank you now; but I was speechless when I looked at what I needed to get through, organize, and learn in less than 25 days. I am very thankful that Karen Runyon offered to help me organize, categorize, and outline my strategy.

The newest thing in Mr. Denbeaux's motion in limine to exclude forensic document examination evidence is The Product Rule of Probability Theory. "One of the key sources of error and misunderstanding by and about forensic document examination can be found in its abuse of the Product Rule of Probability Theory. The principal basis for handwriting examiners' unyielding belief in the uniqueness of the writing of different writers was offered by the father of

the modern document examination field, Albert Osborn. Osborn adopted for handwriting the basic concept of the product rule of probability theory....The product rule of probability theory is the concept that if one knows the individual probabilities of a set of independent attributes, one can calculate the probability of their joint occurrence by multiplying them together. One problem is that Osborn and his followers never progressed beyond using the theory as a loose metaphor for what they are doing. They make no measurements, they make no calculations, and they report no probability of coincidental matches. In other words, they do not apply the theory to the practice at all. See Fed. R. Evid. 702(3)."

Looking through past motions produced for trials involving Mr. Denbeaux, this has not been mentioned before. It has, however, been mentioned in past motions involving Mr. Saks and his testimony. Mr. Denbeaux did not mention the product rule of probability theory during his testimony, nor did he elaborate on it any further during his PowerPoint presentation he prepared for the Frye-Mack hearing (that also was not presented in court).

After working closely with Karen and the prosecuting attorney, we created a PowerPoint that covered everything we thought Mr. Denbeaux could possibly want to "discuss". Susan Morton flew in and attended the hearing. She had prior experience with Mr. Denbeaux and his tactics, so my attorney agreed she was the person to sit at the prosecution's table.

The day was long, and many topics were raised. After five hours on the stand, I stepped down and Mr. Denbeaux stepped up. It was very interesting to finally see in person what I had only heard about for years. I was not disappointed; however, I was told by those with

1 Albert Osborn's *Questioned Documents* (2nd Edition 1929)

(continued on page 9)

Frye-Mack

(continued from page 8)

previous experience with him, that what I witnessed was very tame. His explanation of the early CTS tests and their history was very interesting to listen to and also quickly reworded after he looked out at the courtroom audience and realized that the piercing gaze of Susan Morton was upon him.

Once again he tried to say that FDEs have not done anything to change or correct the issues that were brought forth back in 1989 by the Exorcism of Ignorance as Proxy for Rational Knowledge: The Case of Handwriting Identification "Expertise. This was a hard point to try to make, however, because my testimony and PowerPoint had listed all the things that had been done since 1989. He also tried to testify to the fact that his class had done better than FDE examiners on a recent CTS proficiency; but with a few statements from Bonnie Beal's paper, that, too, was quickly brought to quick demise.

In conclusion, here is the important news: "The court found Lisa Hanson more credible than Professor Denbeaux." Whew! "The court agrees with Professor Denbeaux that further studies relating to validity should be conducted. **However, some of his testimony was not persuasive, particularly when he suggested that inconclusive determinations in the study be considered in a way which suggested that those decisions should be lumped in with actual misidentifications for calculating reliability.**"

This case was being charged as a first-degree, premeditated murder. Because of this, the defense also challenged the latent print analysis and testimony and brought in latent print expert critic, Simon Cole, for that Frye-Mack hearing. Both Frye-Mack hearings ended in the denial of the defendant's motion in limine and both opinions were allowed to be admitted into evidence.

The jury trial began in October, and neither Mr. Denbeaux nor Dr. Cole testified. After two weeks of many people testifying and only 2.5 hours of jury deliberations, the suspect was found guilty of first-degree premeditated murder and aggravated robbery. The judge

handed down the sentence that afternoon. But, because of the first-degree murder charge, this case automatically goes to the MN Supreme Court on appeal. So, hopefully, I will have an update to this column in the next couple months.

I would like to also take this chance to say **Thank You** to all of you who helped me, gave me ideas, and "told me where to go" to find more information! I am proud to be part of this community and proud of the work we do! ☺

Answers

(continued from page 6)

ABFDE News. Names will not be printed with the commentary unless requested.

In his article, Professor Saks has asserted:

- "Forensic scientists are not able to link a fingerprint, a hair, a handwriting sample, a tire mark, a tool mark, or any other evidentiary forensic item to its unique source, but they assert that ability every day in court." (p. 218)
- "No basis exists in theory or data for the core contention that every distinct object leaves its own unique set of markers that can be identified by a skilled forensic scientist." (p. 218)
- There is no scientific basis for the individualization claims in forensic sciences." (p.202)
- "Criminalists across disciplines have made no systematic, concerted effort to find different objects that produce identical markings." (p. 212)
- "For the future, traditional forms of forensic identification should begin to emulate the general model used in DNA typing." (p. 217)

Thank you to Todd Welch, Larry Olson, and the MAFS organization for allowing us to reprint this article from the MAFS Winter 2007 and Fall 2008 Newsletters (edited by Lisa Hanson). —Ed.

1 Vanderbilt Law Review, 61:1:199-219, 2008ABFDE News. ☺

President

(continued from page 1)

would be signed by all new Diplomates and may be requested of all current Diplomates. Alternatively, the Arbitration Agreement could be added to the five-year recertification form for current Diplomates, thereby becoming a part of each Diplomate's file when his/her five-year recertification becomes due. On an annual basis, remission of annual dues may become affirmation that the Diplomate is actively engaged in case examination or other duties relating to the field of forensic document examination, in keeping with the intent and provisions of the ABFDE Rules and Procedures Guide. Any of these revisions will be reported to you through the ABFDE newsletter.

Order and Opinion from the Northern District of Georgia

On January 2, 2008, Judge Julie E. Garnes in the United States District Court for the Northern District of Georgia wrote an opinion in the matter of American General Life and Accident Insurance Co. v. Ward et al. disallowing testimony by an individual who is not certified by the American Board of Forensic Document Examiners. A summary of that court decision appears elsewhere in this newsletter (see page 4). The entire decision has been posted on the members-only page on the ABFDE website.

Nominating Committee

The Nominating Committee is currently in the process of contacting Diplomates who may be willing to have their names placed on the slate for an upcoming election to fill three positions on the Board of Directors. Three positions will become open next year. Please consider serving on the Board of Directors if you are contacted. The Nominating Committee consists of Thomas Riley, Farrell Shiver, and Chair Frank Hicks.

By the time you receive this newsletter, the Holiday Season will be upon us. No matter how you celebrate the Season, we extend to you all of our very best wishes. And have a safe and Happy New Year, too.



...Not

(continued from page 3)

you to do something that is not only unethical, but is certainly going to cause a great deal of nitrogenous waste to become airborne. It is crunch time. Will you follow that order or refuse to do it? Are you prepared to pay the price such as losing your job or being a pariah at work? Exactly what is down there in the core of your character?

Nobody can make that decision for you. If you have a family depending on you, losing your job can be a terrible price. So maybe next time some old geezer is holding forth about honor and ethics and character² because he or she had to give a paper and hasn't done any research since the Carter administration, you should pay attention. Some of us have been around long enough to have observed that those who give up their integrity to save their jobs usually lose both.

Endnotes

- 1 Wise Old Coot
- 2 Character is what you do when you don't think you can be held accountable for it.



Infrared

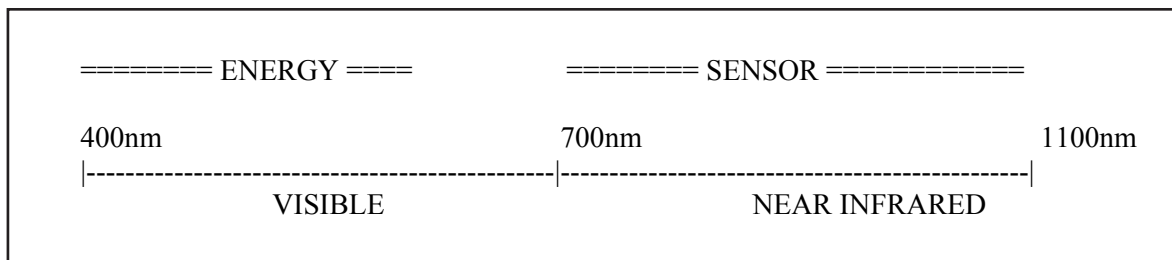
(continued from page 6)

Near-infrared Luminescence

The term luminescence means to glow. In order to produce near-infrared luminescence it is necessary to:

- Use an illuminating energy (light) and a sensor that are in different portions of the spectrum.
- Illuminate an object using energy (light) limited to one portion of the spectrum, usually blue/green.
- The energy is absorbed by the object being studied.
- The energy is converted to a longer wave length, and re-emitted from the object, usually in the near-infrared.
- The sensor is filtered or blocked from the original blue/green illuminating energy.
- The object is viewed in the (longer) near-infrared portion of the spectrum.

With infrared luminescence, the illuminating light is blue-green (400 to 600 nanometers, visible); and the sensor is sensitive, and filtered, for infrared viewing only (700 to 1100 nanometers). Although only blue-green energy is shining on the ink, when viewed in the infrared, the re-emitted energy is literally glowing in the infrared.



What Can Be Determined from Near-infrared Examination of Inks

The only thing that can be determined from this type of examination of inks is whether they are different. And this can usually only be determined if a number of conditions are the same in comparing the two inks, and there is a significant visual difference between them.

What Cannot Be Determined from Near-infrared Examination of Inks


It cannot be determined if two inks are the same based on this type of examination. In other words, it cannot be determined if two inks came from the same pen manufacturer, ink batch, box, or pen, or if they are the same chemical ink formulation.

In addition, the absolute time, or relative time, the inks were placed on the paper cannot be determined. In other words, it cannot be determined if either of the inks were placed on the paper at the same or different times, whether the time was within one second, one minute, one hour, one day or one year, based on near-infrared examinations.

(See ASTM E 1422-01 Standard Guide for Test Methods for Forensic Writing Ink Comparison, Section 9.3 through 9.3.3)

The sequence of writing inks or writing ink and inkjet ink cannot be determined based on this type of examination alone.

Misleading Results

Any attempt by an individual to indicate or suggest that based on a near-infrared examination two inks can be deemed to be the same or from the same pen, or written at any specific time, is inaccurate, misleading and not within the realm of the state of the science. 

American Board of Forensic
Document Examiners, Inc.
Administrative Office
7887 San Felipe, Suite 122
Houston, TX 77063