



Questioned Documents Section - 2013

J21 A Novel Method of Interpreting Evidence When First Attempts Fail

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After attending this presentation, attendees will understand a novel method of approaching an examination when the initial attempts at interpretation fail. A case study will be presented highlighting the efforts used.

This presentation will impact the forensic science community by encouraging attendees to think outside the box during examinations.

The Homeland Security Investigations Forensic Laboratory (HSI-FL) is the investigative arm of U.S. Immigration and Customs Enforcement dedicated to the forensic examination of international travel and identity documents. In the course of working a case, a document examiner at the HSI-FL might examine one document or thousands, to include such things as passports, identity cards, driver's licenses, and birth certificates. A wide variety of instruments are available at the HSI-FL, including the Video Spectral Comparator (VSC), X-ray, microscopes, loupes, and light boxes.

During the course of an examination of three foreign passports, it was determined that all three passports had been bio-page-substituted; meaning the biographical data pages of each were not original, but rather were an "overlay," where an adhesive-backed substrate was utilized to place a false page into the booklet. Indications were that the original pages still were present underneath. Two of the three passports were Electronic Passports ("E-passports" as indicated by the ICAO symbol embossed on the front cover), which meant that there should be an electronic chip somewhere in the book, bearing personalized data relating to the carrier of the book.

Under normal circumstances, specialized software in the VSC 6000 can be utilized to interpret the Machine-Readable-Zone (MRZ) appearing on the biographical data page of a passport, and in the instances of E-passports, the information from the MRZ can then be used to "unlock" the electronic chip, revealing the information encoded on the chip. Visual comparison of the MRZ and the resulting chip data can then be made, to determine if the information is the same—which it should be in instances of booklets that have not been tampered with or altered. Ostensibly, if the MRZs of these page-substituted passports could be interpreted, and if the electronic chips were present and operational, the identities of the true bearers should be easy to determine for comparative purposes.

The machine-readable-zones in the two E-passports were not visible on the substituted pages; however, there was reason to believe they should still be present on the original pages underneath. So what to do? One option would have been simply to pull the substituted page off and see what was underneath; however, examiners at the HSI-FL are not allowed to conduct destructive examinations. So that wasn't an option. Use of an X-ray determined that the electronic chips were present in the books, and they appeared intact and undamaged (chips and antennae are often removed or otherwise damaged during alterations), so finding some method of interpreting the MRZ and opening those electronic chips was important.

Ultimately, strong transmitted light and the spot-illumination function of the VSC were utilized, along with plain old pencil and paper, to hand-interpret the MRZs of the true biographical data pages still present under the substituted pages. After a little trial and error, the right numbers and letters were determined, the data was hand-typed into the VSC and – voila! The MRZs worked. The data was then utilized to "open" the chips and the images and data of the true bearers became readily apparent, further supporting the finding that the booklets had been altered.

Travel Documents, MRZ, E-Passports