



## Questioned Documents Section - 2013

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### J13 Examination of Text on Carbon Paper

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After attending this presentation, attendees will learn about methods used to decipher text on sheets of carbon paper.

This presentation will impact the forensic science community by familiarizing attendees with a questioned document case involving carbon paper and the methods used to decipher text on the carbon paper. These methods might be applicable to other questioned document cases involving carbon paper.

This presentation will document a questioned document case study of a carbon paper examination and the steps applied to decipher and report the text content on sheets of carbon paper. Sheets of carbon paper were submitted for examination to the Homeland Security Investigations (HSI) forensic laboratory as part of a criminal case. The sheets of carbon paper had been used to make copies of, and distribute, a secret newsletter to members of a prison gang. The carbon paper was a key piece of evidence in the case against one of the defendants. Decipherment of the text on the carbon paper was important in order to show the information contained in the newsletter.

The carbon paper submitted had been used to make typewritten copies of a few different documents. The carbon paper had been well handled and contained hard-to-read typewritten and handwritten text. The sheets of carbon paper were filled with lines of text prepared using both the English and Spanish languages. Some of the sheets of carbon paper had been used to copy more than one document. Lines of typewritten text were typed overtop of other lines of typewritten text. Notations had been handwritten overtop of the typewritten text and overtop of other handwritten notations. The overprinted text on the carbon paper was not clearly observed. There was some success in deciphering the overprinted text through image subtraction and analysis techniques performed using the Foster & Freeman VSC<sup>®</sup> (Video Spectral Comparator 6000) and Adobe Photoshop<sup>®</sup> (version CS5). This was accomplished by collectively examining the sheets of carbon paper using the VSC and Photoshop. This resulted in the decipherment of almost all of the text on one of the sheets of carbon paper. Image processing resulted in the decipherment of additional text on the carbon paper that would not have been deciphered otherwise, helped to verify the accuracy of hard-to-read text, and enhanced the readability of the text.

Another aspect of the case was centered around whether it was a decipherment or a transcription. Discussions between questioned document examiners revealed that some viewed the carbon paper examination as a transcription, while others viewed it as a decipherment. Additional discussions arose on how to report the results. Some examiners favored presenting the results to the case submitter as images for the case submitter to interpret. Others favored presenting the interpreted results to the case submitter in the form of a transcription of the text. In addition, other questions arose during the review process, after seeing whether a second examiner could independently reach the same conclusion. The case ended up as a decipherment. A transcription of the deciphered text was provided to the case submitter. A second examiner independently reached the same conclusion for the majority of the deciphered text. The text was reported as unable to decipher where no agreement between the two examiners could be reached.

**Questioned Documents, Carbon Paper, Decipherment**