

TECHNICAL NOTE

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Platen Information Revealed: A Technique for Locating Latent Text on Typewriter (or Printer) Platens

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ABSTRACT: The implementation of a technique, utilizing an arc lamp and filters, designed to reveal latent text impressions on typewriter and printer platens. This technique allows for the location and decipherment of text on platens which are undetectable utilizing conventional sources (for example, side light techniques, VSC-1, etc.).

KEYWORDS: questioned documents, latent text, typewriters, printers, platens

As typewriter and printer identifications become more the exception than the rule, the Forensic Document Examiner is relying more upon the examination of component parts as a means through which relevant information and evidence is acquired. Component parts would certainly include typewriter ribbons, correction or lift-off ribbons, print wheels and elements, and even the platen. In a recent case, latent text entries on a printer platen provided the only available clue to a case which had been unresolved for over three years.

In early March of 1988, a new ALPS P2000 dot matrix printer and a microcomputer were stolen from an office complex. In late March of 1991, the stolen printer was recovered in a remote wooded area. The printer was rusted, covered with leaves and debris, and the casing heavily damaged. The print head was intact but immovable due to rust. There was no print ribbon on the machine. It was evident the printer had been exposed to the elements for many months, if not years.

The serial number of the printer was decipherable and enabled investigators to verify the printer as the one stolen some three years earlier. Although interviews had been conducted at the time of the theft, no suspects had been developed. Investigators requested the lab to examine the printer in an effort to obtain any information that might provide investigators with a lead. Because there was no printer ribbon, attention was focused on the examination of the printer platen. The platen was removed and examined using oblique lighting techniques for impressions and/or visible text. An overlapping

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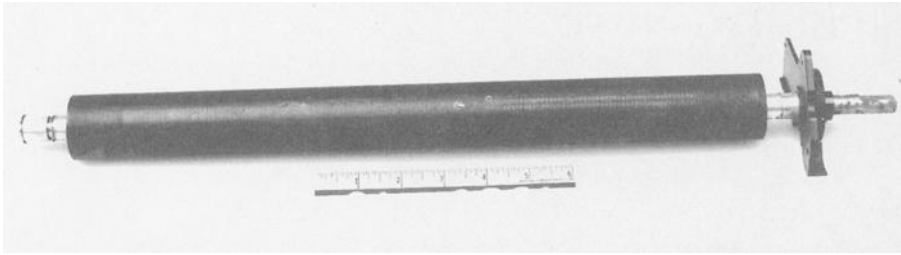


FIG. 1—Printer platen viewed under normal lighting, with nondescript visible characters to right of arrow, and latent text to left of arrow.

array of nondescript interface generated characters was evident around the circumference at one end of the platen (see Fig. 1). No evidence of decipherable text entries was found. The Video Spectral Comparator (VSC-1) was next used with again no evidence of decipherable text.

In the interest of thoroughness, it was determined the platen should be examined using an arc lamp as an exciter source. Previous experimentation using the arc lamp in the examinations of other materials had yielded results when the VSC had not.

The platen was examined using an orange (Luma-lite) barrier filter and a Luma-lite arc lamp. The arc lamp was set to provide energy at a wavelength of 450 nm at between

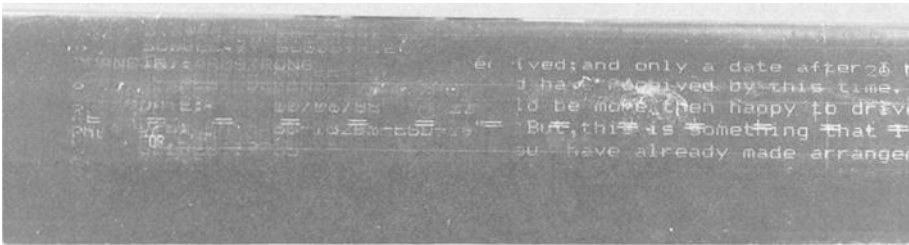


FIG. 2—Latent text, consisting of a name and partial letter, luminesces using arc lamp and orange (Luma-lite) barrier filter.

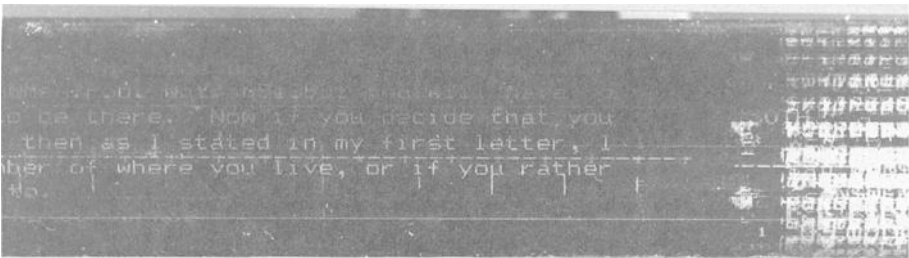


FIG. 3—Latent text, consisting of a name and partial letter, luminesces using arc lamp and orange (Luma-lite) barrier filter.

7 and 15 watts of power. The partial text of a letter, a person's full name, and various extraneous entries instantly luminesced (see Figs. 2 and 3).

Based on the incompleteness of various sentences and their location on the platen, it is likely the latent images were caused by printing directly to the platen through a ribbon. The fact that a detailed examination of the platen, using conventional means, had failed to detect the enormous amount of available information, illustrates the obvious value of this technique as an additional examination tool.

The text images were transcribed and provided to the investigator. The name deciphered from the platen proved to be that of an individual who had worked in the office area from where the computer and printer had been stolen. This individual had not been interviewed during the earlier investigation and had since relocated.

Research using variations of this technique in conjunction with different ribbons, printer and typewriter platens, and other variables continues. Subsequent papers will address the results of this research.

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