Task Number: **2017-008**

Article Title: Refreshing the Aged Latent Fingerprints with Ionizing Radiation Prior to the Cyanoacrylate Fuming Procedure: A Preliminary Study

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Article's Subject Matter:

- **The article speaks to an experiment whereby latent fingerprints found on non-porous surfaces were tested to see if "Useful for Identification" minutiae counts would be increased by way of exposing the latent fingerprints to ionizing radiation prior to the cyanoacrylate fuming process of fingerprint development.**

Key Points in Article

- **Results of the experimentation indicated that useable minutiae numbers were increased by way of exposure to ionizing radiation in comparison with control samples that were not exposed to ionizing radiation. According to the article, the increased number of useful for identification minutiae was due to a re-hydration of the matrix with allowed for better development during the cyanoacrylate fuming process.**

- **The three forms of radiation used in the experiments were Ultraviolet Radiation, X-Ray Radiation, and Thermal Neutron radiation. All exposures to radiation from the Thermal Neutrons and the UV Radiation took place for 30 minutes, while the exposure to the X-Ray Radiation took place over 15 minutes.**

- **From this prelimary study, it can be shown that aged fingerprints can be "Refreshed" by way of a controlled and timed exposure to ionizing radiation prior to exposure to the cyanacrylate fuming process. All three radiation sources showed similar improvement of the quality of minutiae available for identification.**

- **The article suggests that cost effective UV light sources be incorporated into CA chambers as an integral part of the cyanoacrylate fuming regime.**

Fallacies and or Issues

- A quote from the article stated that there is a possibility of estimation of the age of fingerprints by measuring the decreases in relative content of squalene and cholesterols found in the matrix of a fingerprint as deposited by a donor. I would find this to be strange as matrix differs from person to person. Unless a mean or average could be established in a very large scale study,

the estimation of the age of fingerprints would be more or less flawed due to inadequate sampling data. (Just my opinion as I have not seen the data supporting the quote from the article).