

Toolmark and Firearm Identification

In this case you heard the testimony of a witness who claims special qualification in the field of toolmark examination. This witness has offered an opinion about whether the marking on [the cartridge, spent bullet] could be matched to the [firearm].

When evaluating this testimony you should know that the “validity of the fundamental assumptions [underlying the witnesses testimony] of uniqueness and reproducibility of firearms related toolmarks has not yet been fully demonstrated.”¹

You should also be aware that the guidance provided to examiners for conducting examinations such as the exam that took place in this case “does not even consider, let alone address, questions regarding variability, reliability, repeatability, or the number of correlations needed to achieve a given degree of confidence.”²

Instead, the “decision of the toolmark examiner remains a subjective decision based on unarticulated standards and no statistical foundation for estimation of error rates.”³

As a result, because this method has not yet been validated and the error rate is unknown, the testimony presented about this toolmark examination cannot be presented with any particular degree of accuracy.

¹ NAS Report p. 154.

² NAS Report p. 155.

³ NAS Report p. 153-154.