

## When is a Kiss Just a Kiss?

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*"She took the last puff of the cigarette that she removed from his dying hand and then simply flicked it away," not knowing she just placed herself at the death scene.*

In the early morning hours of May 10, 2002, a male was found shot, bleeding and in need of medical attention on a Richland County roadway. The victim expired while at the hospital, and although he could speak, he did not say who shot him. The autopsy revealed the victim suffered a single gunshot wound to the chest. The evidence collected at the scene included two live rounds, one spent casing, a cell phone and a cigarette butt. The crime scene investigator noted the clean condition of the cigarette butt and collected it. The casing and live rounds were .380 caliber; no weapon was recovered.

In January of 2003, the cigarette butt was submitted to the Mansfield Police Laboratory for analysis for an upcoming court date. In addition to the cigarette butt, a buccal swab sample from the female suspect, an acquaintance of the victim's girlfriend, was submitted. Analysis of the cigarette butt revealed a readily distinguishable major/minor mixture consistent with an unknown male and the suspect. The victim's blood was submitted in February for analysis. The victim could not be eliminated as the major donor of the male portion of DNA recovered from the evidence. The Prosecutor and lead Detective could not believe that DNA from both the suspect and victim could be on the cigarette butt from the crime scene. They felt they had the only evidence they needed to convict their suspect. We considered the possibility that the suspect lit a cigarette for the victim before she killed him. Perhaps they shared a cigarette? My favorite, "the made for TV" version, is "the perpetrator took the last puff of the cigarette that she removed from his dying hand and then simply flicked it away," not knowing she just placed herself at the death scene. To address whether there was a reasonable explanation of how this evidence wound up at the scene, we decided to use the PowerPlex® 16 System<sup>(b,c,d)</sup> to explore an alternate explanation of how both profiles had been deposited on the cigarette butt. Was it possible that the donor of the female DNA was never at the scene? This was a thought the Prosecutor and lead Detective did not want to hear.

I was unable to locate any kissing studies, and my neighbors have pretty much had it with my intimate requests, so I needed help from my colleagues. The study involved minimal supplies, an appropriate location and an occasion that would make the collection feasible. The participants were required to kiss for a period of 5 seconds and then each smoke a cigarette. The process was repeated after 1 hour, but the kiss was extended to 10 seconds. The cigarettes were air-dried and sealed in a paper envelope for transportation to the laboratory. Analysis of the cigarette butts revealed readily distinguishable major/minor profiles in 67% of the samples using the PowerPlex® 16 System. The profiles were extremely similar to the profile obtained in the case sample.

At the end of March, the DNA evidence was introduced during the trial. Cross-examination included discussions of primary and secondary transfer theories associated with biological fluids and specifically cigarette butts. The research results were discussed during this period.

The jury found the defendant guilty of murder. In addition to the DNA evidence, statements of the defendant's associates and her cell phone call, which relayed off the closest cell phone tower, ruined her alibi.