

REVERSE DNA PROFILING: GENERATION OF A DNA PROFILE USING CHILDREN OF A SUSPECTED DECEASED

Justin Lewis

Forensic Science Division, Ministry of National Security, Government of Jamaica, 2 ½ Hope Blvd., Kingston, Jamaica

Obtaining a useful DNA profile is essential to crime solving. Degradation and contamination at crime scenes will continue to hinder the ability to generate such profiles. Such was thought to be the case involving arson and the brutal murder of a grandmother and her three grandchildren in St. Thomas, Jamaica. Burnt remains were found in the demolished home of the deceased and partial DNA profiles were obtained from the grandchildren but not the grandmother. These partials were compared with those of the parents but confirmation remained uncertain until a bloodstain found on the trousers of one the suspects changed everything. The profile of this bloodstain did not correspond to any of the profiles obtained from the remains nor did it match that of the suspects. It was postulated that the stain may have resulted from a struggle between one of the deceased and one of the suspects. It was also postulated that this unknown profile may be that of the grandmother's since it did not correspond to the partial profiles obtained from the remains of her grandchildren and that no DNA was obtained from her remains. With this theory in mind a single parent comparison and calculation was performed using the profile obtained from her son, who is the father of her deceased grandchildren and this revealed a parental relationship indicating that the blood found on the suspect's trousers is indeed that of the grandmother. To confirm this, four other alleged children of the grandmother provided their DNA which again revealed a parental relationship. Based on allele sharing at each STR marker, we were able to reconstruct a composite profile of the grandmother and it matched that of the unknown profile obtained from the bloodstain found on the trousers of one of the suspects.