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**Health  
Pathology**

## **Expert Certificate**

*Section 177 Evidence Act 1995*

**RE: Alleged Murder of Wendy WAINE  
(formerly Wayne BRANNAN)**

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**FASS Reference Number: FS85/0223**

- (1) I, David BRUCE, am employed at the NSW Health Pathology Forensic and Analytical Science Service, Joseph Street, Lidcombe.
- (2) I have a Bachelor of Science from the University of Sydney, a Postgraduate Diploma in Clinical Science from Riverina College of Advanced Education and a Doctor of Philosophy from the Open University, United Kingdom and I have specialised knowledge based on my training, study and experience.
- (3) I acknowledge that I:
  - (i) have read the Expert Witness Code of Conduct in Schedule 7 of the NSW Uniform Civil Procedure Rules 2005; and
  - (ii) agree to be bound by the Code.
- (4) Based on my specialised knowledge I can report as follows:

This statement has been prepared in response to the following enquiries (in italics) from Mr Rhys Carvosso, Solicitor:

- a) *the utility of re-testing the anal swab and cigarettes in light of the significant advances in forensic testing technology since 1985;*

The anal swab was examined in 1985 for the presence of semen and spermatozoa which were not detected using an acid phosphatase chemical screening test and microscopy (to identify possible spermatozoa on the swab). The chemical and microscopic examination of possible semen samples has not altered significantly to the present day. Therefore, it is unlikely that this result would change with contemporary testing. In the absence of semen on the swab, DNA testing using either autosomal or Y- chromosome profiling kits would be likely to only yield the DNA profile of the victim.



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*The results apply to the samples(s) as received.*

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The cigarette butts should contain saliva, a high yield DNA source, from the smoker which could be DNA profiled with the current kits available i.e. autosomal and Y- chromosome profiling kits.

- b) *The opportunities for forensic testing of the hair sample which might have been available if that exhibit were able to be located; and*

The hair sample would be examined to determine whether it is of human origin and also to determine the morphology of the hair root. If the root contains cellular material (typical of plucked hairs) this could be excised and processed for DNA profiling using autosomal DNA kits. If the root does not contain cellular material, which is characteristic of shed hairs, the hair can still be processed for mitochondrial DNA sequencing which may produce a sequence suitable for comparison with reference samples.

- c) *The kind of information that may be obtained from such testing to assist any investigation into Ms Waine's death.*

Contemporary testing of the exhibits from this case may have produced DNA profile information suitable for direct comparison with reference DNA samples obtained from the victim and persons of interest. Any profiles obtained may also have been suitable for upload onto the NSW and National DNA database or International databases via Interpol. The information from database searching could possibly yield direct matches to individuals and other crime scenes or familial matches to possible relatives of an unknown individual.

N.B: It would be expected that any DNA recovered from these samples would have undergone some degree of degradation over time depending on the storage conditions of the items, with freezing being the optimal method for the preservation of biological material. This would affect the quality of the DNA profiles recovered i.e. reduce the amount of information in the DNA profile. However, there may still be sufficient information for direct comparison to reference DNA profiles from nominated individuals or upload onto DNA databases for searching. Other methods such as Mitochondrial DNA sequencing can be used when the nuclear DNA component is too degraded for testing.



Reported By: David BRUCE

Date: 10/05/2023