Criminalistics Branch
Forensic & Analytical Science Service
PO Box 162 Lidcombe, NSW 1825
[redacted]

NSW GOVERNMENT | Health Pathology

In the matter of:	Special Commission of Inquiry into LGBTIQ hate crimes - John Russell
Date:	23 August 2023

Name:	Michele Franco
Occupation:	Group Manager, Evidence Recovery Unit at NSW Health Pathology Forensic & Analytical Science Service
Address:	C/- 480 Weeroona Road, Lidcombe NSW 2141

1 This statement made by me accurately sets out the evidence that I would be prepared, if necessary, to give in court as a witness. The statement is true to the best of my knowledge and belief, and I make it knowing that, if it is tendered in evidence, I will be liable to prosecution if I have wilfully stated in it anything that I know to be false, or do not believe to be true.

2 I am currently employed as the Group Manager, Evidence Recovery Unit at the NSW Health Pathology Forensic & Analytical Science Service (FASS). I have held this position since February 2018.

3 I have been employed as a Forensic Biologist by the NSW Department of Health, since 1985.

4 My scientific qualifications are a Bachelor of Science from the University of New South Wales and Master of Science Management from the University of Technology Sydney and I have specialised knowledge based on my training, study and experience.

5 This statement is given in response to questions raised in a letter from the Special Commission of Inquiry into LGBTIQ hate crimes dated 18 August 2023 to Clint Cochrane, Laboratory Manager, Forensic Biology/DNA, Forensic & Analytical Science Service (see annexure A). The questions are restated below, followed by my responses.

Testing in 1989

Q1. Was any forensic testing of the clothing carried out by DAL, between November 1989 and July 1990? If so, please outline those results and provide any records held in relation to any such testing.

6 No, the exhibits were not submitted into the laboratory for testing at any time before 2001.

Q2. As at November 1989-July 1990, what testing (for DNA or otherwise) could have been conducted on the clothing by DAL, identifying the technology then available, if the clothing had been provided to DAL?

7 Typically the type of testing that would be conducted in 1989 to 1990 would be for the presence of body fluids, such as blood or semen. If blood was detected, the blood could then be typed using polymorphic (exist in different forms) protein markers to determine if any of the bloodstains could have originated from the victim or someone else. The following markers were available for use:

- Haptoglobin
- Phosphoglucomutase
- Erythrocyte Acid Phosphatase
- Group Specific Component
- Adenylate Kinase

8 A statistical calculation was normally made to determine the approximate frequency of occurrence for the combination of blood types detected. If there was any sample remaining, a portion of the stain would be retained for long term storage in the laboratory freezer.

9 The statistical level of support for the profile of a bloodstain which matched the person was typically very low with little capability to rule out matches by chance. If a blood type did not match a person reference, the result was absolute and the person was excluded as the potential source of the questioned bloodstain.

10 Testing for semen could also be conducted. If semen was detected, the semen could be tested for the blood type of the contributor using the ABO grouping system or testing using the enzyme, phosphoglucomutase.

11 In late 1989, DNA testing was not freely available to Police in NSW. DNA testing was in its infancy in NSW in late 1989-early 1990s; and while more advanced in other countries like the U.K. and USA, was still in the early stages of use. DNA testing using Restriction Fragment Length Polymorphisms (RFLP) was the initial DNA testing method implemented however it was very limited in application as it required large samples of good quality DNA, usually present in body fluids such as blood, semen and saliva. The DNA testing process was quite laborious and could take months for a result to be obtained.

12 Furthermore, testing needed reference samples to be available from persons of interest for comparison purposes. This meant that an unknown blood or semen stain could be compared to persons who could be either included or excluded as a potential source.

13 Due to the limited availability of DNA testing in NSW in late 1989, NSW Police could use overseas providers for DNA testing. My understanding is that police requesting DNA testing from overseas providers was a rarity, rather than routine practice.

Testing in 2001/2022

Q3. What clothing referable to this matter was provided to DAL in about June 2001 for forensic testing?

- A pair of 'Hyrebird' gym shoes (item 1)
- Levi jeans (item 2)
- Red sloppy joe (item 3).

  The above items were labelled as "the clothing worn by Mr. John Russell and which was preserved by his family and given to police"

- Coins (item 4) were submitted, but not examined.

Q4. What precisely was the testing, using what technology, that was undertaken by DAL in 2001/02 on that clothing? In answering this question, please specify:

(a) whether, and by what means, and from where, any samples or extracts were cut or lifted from any part of the clothing;

(b) what testing techniques were applied to the clothing and/or to such samples or extracts;

(c) what was done with such samples or extracts at the conclusion of such testing.

Testing undertaken in 2001/02

a) Some of the information about the testing is taken from the case notes made by the biologist from FASS at the time of examination. See photos in annexure B taken at the time of examination.

The items were described and then examined for the presence of blood. They were tested using a preliminary or screening test for blood (o-Tol test) and the stains that gave a positive reaction were circled using red pencil on the item and the areas that tested negative were circled in green pencil. The items were also photographed.

Background for the o-Tol test: Screening test for Blood

This test involves rubbing a piece of filter paper over the suspect blood stain and applying two different chemicals to the sample on the filter paper. First o-tolidine (o-Tol) and then hydrogen peroxide. The appearance of a blue colour within a few seconds indicates a positive reaction and that the staining could be blood.

A **direct o-Tol test** is a much more sensitive test that can be used on washed items or very weak staining. The chemicals (o-tolidine, followed by hydrogen peroxide) are applied directly on a small area cut from the item (such as a piece of fabric) so that any possible blood staining associated with the fabric is allowed to react.

General o-Tol testing is performed on dark material where staining may not be visible. It involves testing larger areas to attempt to localise a stain.

Shoes (item 1)

14 Left: There was a red-brown smear on the left toe area of shoe (area 1Li) which tested o-Tol positive. A swabbed sample of the staining was sent for DNA testing.

15 Right: There was a weak red-brown stain on the laces of the right shoe which tested o-Tol positive.

16 General o-Tol testing of the black area of both shoes gave a slow o-Tol positive reaction and the area was not able to be localised. I am therefore unable to comment on whether blood was present on these areas.

Jeans (item 2)

17 There were various areas on the back and front of the jeans with light-brown staining that were tested with o-Tol. Due to the weak appearance of the stains, these were tested directly. The stained areas, described as "old and weak", were then cut out and underwent DNA testing using the Profiler Plus® System.

18 Area i - right upper thigh – DNA testing.

19 Area ii - below right knee – not cut out or stored (too weak).

20 Area iii - lower left leg at ankle – DNA testing.

21 Area iv - above right knee – DNA testing - with remainder of fabric stored in freezer.

22 Area v - right upper thigh – multiple pieces of material cut out near area i and combined for DNA testing.

Sloppy-joe (item 3)

23 Numerous areas of soaked-in light-brown stains were observed on the sloppy-joe. Areas on each of the sleeve cuffs reacted o-Tol positive.

24 Area i left cuff – cut out for DNA testing with remainder of fabric stored in freezer.

25 Area ii right cuff – cut out for DNA testing.

26 DNA testing of each area underwent the following testing processes in 2002:

1. Chelex Extraction of DNA.
2. Microcon Centrifugal Filter concentration of extracted DNA – if needed.
3. Quantiblot Human DNA Quantitation Kit for quantitation of recovered DNA.
4. DNA profiling using the Profiler Plus® DNA typing kit.
5. Capillary electrophoresis conducted using 3100 genetic analysers.

27 At the conclusion of DNA testing, any remaining DNA extract is stored indefinitely in the freezer at FASS.

28 Tapelifts and any material (such as fabric, swabs, etc) still remaining in the original sample tube after the DNA testing are kept for a minimum of 6 months.

Q5. What precisely were the results of all such testing in 2001/02? Please attach any records of results.

29 DNA testing was unsuccessful on the areas tested for the shoes and the jeans as the amount of DNA recovered was very low and did not generate a DNA profile. There were indications of DNA present but not enough for interpretation or comparison purposes.

30 The DNA testing of the two areas of the sloppy-joe could have been adversely affected by the presence of the dye. It was noted that dye was seen in the DNA extract from the sloppy joe and the quantity of DNA present could not be determined with the QuantiBlot® Human DNA Quantitation method used at the time, due to the interference of the dye. DNA profiles were not generated from these samples.

Q6. When were the 2001/02 results conveyed to police? Please attach the relevant correspondence to police.

31 In the court report signed by Vivien Beilby, dated 11.1.2003 (see annexure C).

Q7. Did DAL suggest in about 2001/02 that a reference sample should be obtained from a family member of Mr Russell so that comparison testing such as Y chromosome testing could occur? If not, why not? What comparison testing was possible at the time?

32 In early 2002, a biologist from the laboratory asked the police about obtaining a reference sample from the deceased. Police said that they would get back to us. Around the same time, a biologist contacted the DAL Toxicology lab and assertained there was no sample from the deceased in storage.

33 In May 2002, a biologist discussed with police the possibility of obtaining a Guthrie card from the deceased or alternatively father/sibling reference samples.

34 In July 2002 police indicated they were unable to obtain a Guthrie card. A biologist responded that if any DNA results were obtained a sample could then be requested from Mr John Russell's father for comparison.

35 As no DNA results were obtained from the evidence, a reference sample from the father was not requested.

36 DNA testing using the Profiler Plus® System was available at the time.

37 Y chromosome (Y-STR) testing was not developed or available commercially in 2002. This DNA test exclusively targets male DNA. FASS validated the Y-STR testing kit (Y-filer®) around 2007-2008 but it was not used routinely until 2010. Y-STR testing is particularly suitable to use for sexual assault cases involving a female victim as the female's own DNA would not interfere with the Y-STR results. Y-STR testing is typically not useful in situations where there are multiple males contributing DNA. Therefore testing using PowerPlex® 21 may be the preferred option, in circumstances where multiple males are expected to contribute DNA.

Q8. What were the limitations of the relevant testing technology available in 2001/02, by comparison with 2023?

38 Technological improvements in DNA testing since 2001/2 has enabled the laboratory to obtain more information from less starting material (biological matter).

39 DNA testing involves a number of individual analytical steps including extraction, quantification, amplification, and capillary electrophoresis. Current DNA testing has improvements in each of the individual analytical steps. Further information on these steps is set out below:

40 **Extraction**: The chemistry used to extract DNA has improved significantly. The use of magnetic bead-based extraction kit superseded the use of previous chemical extraction methods (e.g. chelex) The current method has a greater capability to recover purified DNA and remove DNA inhibitors, such as dyes co-extracted from fabric.

41 **Quantification**: The introduction of real time PCR quantification techniques has improved capability to provide a more robust estimate of the amount of DNA for downstream processing compared to previous probe based technology. This extends to the capability to estimate the amount of male DNA within a sample, in addition to the amount of total human DNA. This allows for samples to be targeted for downstream processing with the male specific DNA typing kt. Estimation as to the quality of the recovered DNA is also available with current quantification methods.

42 **Amplification:** A significant advancement occurred in 2012 with the introduction of PowerPlex 21®. This typing kit targets 20 highly variable markers as well as a sex marker. PowerPlex 21® is a highly discriminating DNA typing kit with increased sensitivity and ability to work on degraded and inhibited samples.

43 Due to the number of DNA markers, PowerPlex 21® is also more useful for comparisons between family members (familial matching) reducing the chance of missing a familial link.

44 **Capillary electrophoresis** has been carried out on 3500xl genetic analysers since 2013, with an increase in sensitivity over the former instrument.

45 By enhancing the performance at each step of the process, more DNA profiles are recovered and suitable for upload to the DNA databases, which is a key tool to identify possible contributors to the samples.

46 The current analytical system at FASS FBDNA has the capability to generate an uploadable autosomal DNA profile from as little as 10 cells, although the optimal target is approximately 120 cells.

AUTOMATION

47 In 2009 FBDNA introduced automated DNA processing which, among other benefits, reduced the risk of contamination which can occur with manual handling.

48 In 2014, the automation of DNA processing was completed to include all steps of the process for the majority of samples. Given the 2013 implementation of the highly sensitive

49 PowerPlex 21® typing kit and ability to generate DNA profiles from a small number of cells, automation was important to ensure quality results and minimise risks of contamination due to operator manipulations.

SPECIALISED DNA ANALYSIS:

50 Specialised DNA typing can be used to complement autosomal DNA testing (PowerPlex 21®) or in circumstances where autosomal testing may not be useful.

Male specific Y-STR typing

51 In 2007, FBDNA introduced the Yfiler™ typing kit which targets DNA exclusively from male individuals. Y-STR DNA profiles are inherited on the paternal line and have value in linking individuals and males on the same paternal line.

52 Y-STR testing is of particular value in cases with a mixture of DNA from female and male sources, where only the male DNA is of interest. The most common application is in sexual assault allegations.

53 In 2019 the newer Yfiler Plus™ kit was introduced with a greater number of markers leading to higher power of discrimination and improved chemistry enhancing performance with challenging samples.

54 Prior to Y-STR DNA databases, there was no capability to search a crime scene profile against a database of individuals. Y-STR profiles could only be compared 'in case' namely on specific request between cases and nominated individuals.

55 Since 2019 Y-STR DNA profiles have been able to be uploaded for searching on the national NCIDD-Integrated Forensic Analysis (NIFA) database. The NIFA database allows direct matching to people on the same paternal line.

56 Capability to conduct Y-STR analysis and uploading to a searching database is a highly valuable tool. Y-STR analysis and databasing is a new avenue for identifying male contributors to DNA profiles either as a direct DNA match or linking to someone on the same paternal line.

DATABASE SEARCHING

57 Introduction of the NSW (2000) and National DNA databases (2001) allowed for the comparison of profiles obtained from crime scenes to other crime scene profiles and person profiles (including elimination samples from staff). In 2001/02 there were not very many profiles entered onto the DNA databases compared to today.

PROBABALISTIC GENOTYPING SOFTWARE

58 The introduction of STRmix™ DNA expert forensic interpretation software to resolve mixed DNA profiles was not available in 2001/02. Interpretation of mixtures of DNA from more than one contributor was limited, unless a profile from one of the contributors was assumed. In 2023, mixtures originating from up to 5 contributors can now be investigated to determine the possible individual profiles of each of the contributors. The software allows the mixture to be searched on the current NSW DNA database.

Testing in 2016

Q9. What clothing, and/or samples, and/or extracts referable to this matter were provided to FASS in 2016 for forensic testing and when?

59 The samples submitted by police in 2016 from the items of clothing included tapelifts and a section of material cut from the front of the sloppy-joe (see table 1 below, for descriptions). These samples were sent in robot acceptable tubes which proceed directly to processing on the robotic platforms in the DNA laboratory. These submissions do not undergo other examination (such as biological fluid testing) in the FASS Forensic Biology Evidence Recovery Unit.

Q10. What precisely was the testing, using what technology, that was undertaken by FASS in 2016 on that clothing, and/or samples, and/or extracts? In answering this question, please specify:

(a) whether the testing in 2016 was carried out on samples and/or extracts already obtained in 2001/02, or whether the 2016 testing was carried out on different and/or additional samples and/or extracts;

(b) if the latter, by what means, and from where, any samples or extracts were cut or lifted from any part of the clothing in 2016;

(c) in relation to all testing in 2016, what testing techniques were applied to such samples or extracts;

(d) what was done with such samples or extracts at the conclusion of such testing.

60 Testing in 2016 was conducted on the samples submitted by police (table 1).

61 **Table 1**

Samples and description of tapelifts (T/L) provided by police	DNA Processing sequence	After DNA processing
R1 - (T/L) upper ankle of R. shoe	1. Automated Lysis 2. PrepFiler™ magnetic bead extraction of DNA 3. Quantifiler Human for quantitation of DNA 4. DNA testing using the PowerPlex 21® DNA typing kit. This kit tests for 20 markers of the DNA plus a sex determining marker. 5. Capillary electrophoresis conducted using 3500xl genetic analysers	Remaining DNA extract from all samples retained indefinitely in freezer at FASS
R2 - T/L upper ankle of L. shoe		
R3 - T/L front R. pocket of jeans		
R4 - T/L front L. pocket of jeans		
*R5-T/L rear R. pocket of jeans		
R6 - T/L rear left pocket of jeans		
R7 - T/L front belt line of jeans		
R8 -T/L rear belt line of jeans		
R9 - T/L collar area f sloppy-joe		
R10 - T/L R. sleeve of sloppy-joe		
R11 - T/L L. sleeve of sloppy-joe		
R12 - T/L upper front of sloppy-joe		
R13 - T/L lower front of sloppy-joe		
R14 - T/L waistband of sloppy-joe		
R15 - swatch (cut out) stain front of sloppy-joe		

*R5-T/L rear R. pocket - only processes 1, 2 and 3 (in table above) due to the low levels of DNA.

62 Additional testing was also conducted on the DNA extracts from areas of clothing (4.5.2016) originally sampled from the clothing items (Table 2).

Table 2

DNA extracts from 2002 recovered from freezer– originally sampled by FASS	DNA Processing sequence	After DNA processing
1Li L. shoe - toe area	1. PrepFiler™ magnetic bead re-extraction of DNA 2. DNA testing using the PowerPlex 21® DNA typing kit. This kit tests for 20 markers of the DNA plus the sex determining marker 3. Capillary electrophoresis conducted using 3500xl genetic analysers.	Remaining DNA extract from all original DNA extracts retained indefinitely in freezer at FASS
2iii Jeans - lower left leg area		
2v Jeans - right upper thigh		
3ii Sloppy joe - right cuff		
3i Sloppy joe - left cuff	1. PrepFiler™ magnetic bead re-extraction of DNA Insufficient DNA recovered in this sample for further processing	

Conclusion of the testing

63 Following DNA testing original samples are discarded. As mentioned in the tables above, the remaining DNA extracts are retained indefinitely in the freezer at FASS.

Q11. What precisely were the results of all such 2016 testing? Please attach any records of results.

64 The 14 tape-lift samples submitted to the laboratory in 2016 (samples R1, R2, R3, R4, R6 to R11 inclusive and samples R13 and R14) were all weak and complex DNA mixtures (that originated from more than one person). Low levels of DNA was recovered from R5 and this sample did not proceed to DNA profiling. The sample, R12, labelled 'tapelift from the upper front of the sloppy-joe' did not meet quality standards as the profile matched a person on our elimination database. The elimination database is a register of DNA profiles of staff working at FASS and some Police personnel, mainly those concerned with collecting forensic exhibits.

65 The results from the DNA extracts stored in 2002 (tested 2016) are outlined in table 3.

66 **Table 3**

DNA extracts stored in 2002 recovered from freezer– originally sampled from items examined at FASS	Results	
1Li left shoe - toe area	PowerPlex 21® - unsuccessful as DNA recovered was too weak.	Remaining DNA extract from all DNA extracts retained indefinitely in freezer at FASS
2iii jeans - lower left leg area	PowerPlex 21® - very weak partial profile with indications that it was a mixture of more than one contributor	
2v jeans - right upper thigh	PowerPlex 21® - very weak partial profile	
3i sloppy joe – left cuff	DNA not detected	
3ii sloppy joe - right cuff	PowerPlex 21® - very weak partial profile with indications that it was a mixture of more than one contributor	

Q12. When were the 2016 results conveyed to police? Please attach any relevant correspondence to police.

67 The results were reported in a Police Report dated 4th Nov 2016. See annexure D.

68 In November 2016, it is noted in the case records that Police emailed to ask FASS if there was anything further that could be done with the mix weak/complex results. At this time it was determined that further profiling/ interpretation was not warranted. This was decided due to the complexity and low levels of the mixed DNA profiles and the limitations of the software available to interpret the results for databasing purposes.

Q13. Did FASS suggest in 2016 that a reference sample from a family member of Mr Russell should be obtained so that comparison testing such as Y chromosome testing could occur? If not, why not? What comparison testing was possible at the time?

69 No, from the results obtained, there was not a substantial DNA profile available for comparison purposes. The only full profile recovered (from R12) matched a person on our elimination database.

70 The results of the tapelifts typed using PowerPlex 21® gave only a very small amount of DNA information (weak partial profile) which could not be used for uploading onto the autosomal searching database.

71 Y-STR testing was available in 2016 but the testing is not as discriminating as PowerPlex 21®, as males on the same paternal line are expected to have the same Y-STR type. As the PowerPlex 21® results were partial, it was considered unlikely that Y-STR testing would be an improvement on the PowerPlex 21® results. There is no computer software at FASS available to assist in interpreting Y-STR mixtures while there is for PowerPlex 21®

mixtures. Y-STR testing used at least double the amount of sample in 2016, compared to 2023. Also, in 2016 there was no searchable Y-STR database.

Q14. What were the limitations of the relevant testing technology available in 2016, by comparison with 2023?

1. **2023 - Improvement in measuring the quantity of male DNA and the quality of DNA in a sample**

In 2016; Quantifiler Human used for quantitation of DNA. Could only determine the total amount of DNA present in a sample.

In 2023; Quantifiler Trio used for quantitation of DNA following its introduction at FASS in 2017.

- It gives more information about the type of DNA present in a sample.
- Has a marker specific for male DNA present in a sample.
- Has a degradation index (DI) that indicates the quality of the DNA within a sample (i.e. the amount of large DNA fragments compared to the small DNA fragments.
- Uses less DNA extract than Quantifiler Human

2. **2023 - Improvements in Y-STR testing (targets male DNA only).**

72 In 2016; Y-STR DNA testing was in operation using the Yfiler™ DNA typing kit. This kit tests for 17 Y-STR markers on the Y chromosome. Yfiler™ uses double the amount of DNA extract compared to Yfiler Plus™

73 In 2023; Y-STR DNA testing using the Yfiler Plus™ DNA typing kit since 2019. This kit tests for 27 Y-STR markers on the Y chromosome, is more sensitive, less affected by DNA inhibitors and is easier to detect mixtures of DNA from more than one male.

3. **2023 - Availability of Y-STR searching database**

74 In 2016 Y searching database not available. A searchable Y-STR database became operational in 2019 and has grown subsequently.

75 **2023 - Advanced version of STRmix™ DNA expert forensic interpretation software.** More features and functionality compared to earlier versions in 2016. Able to conduct a database search using the software on unresolved mixtures of DNA from more than one contributor. Previously required single source profiles or uploadable components of mixtures.

Testing in 2022/2023

Q15. What clothing, and/or samples, and/or extracts referable to this matter were tested by FASS in 2022/2023?

- **Reference sample from brother of John Russell.**
  DNA typing using the Yfiler Plus™ system was conducted on the reference sample to infer a Y-STR profile for John Russell.
- **Shoes** (item 1)
- **Jeans** (item 2)
- **Sloppy joe** (item 3)

Table 4

DNA extracts
2i right upper thigh (stored in 2002)
2v right upper thigh (near area 1) stored in 2016
3i left cuff (stored in 2002)
3ii right cuff (stored in 2002)
R2 to R11 (inclusive) R13 and R14
New samples taken from clothes
1ii swab of black fabric on right shoe towards toe
1iii swatch (cut-out) of black fabric on right shoe towards toe
1iv swatch (cut-out) of trim fabric on right shoe towards toe
2vi front left leg between ankle and knee
2vii near the back right pocket, near Levis tag
3i left cuff (cut out) from sample stored in freezer since 2002
3iii back of left sleeve near elbow
3iv side of left sleeve on sewn on patch, near elbow (to avoid dye from garment)
3v stain on inside waistband

Q16. What precisely was the testing, using what technology, that was undertaken in 2022/2023 on that clothing, and/or samples, and/or extracts? In answering this question, please specify:

(a) whether the testing in 2022/23 was carried out on samples and/or extracts already obtained in 2001/02 and/or in 2016, or whether the 2022/23 testing was carried out on different and/or additional samples and/or extracts;

(b) if the latter, by what means, and from where, any samples or extracts were cut or lifted from any part of the clothing in 2022/23;

(c) in relation to all testing in 2022/23, what testing techniques were applied to such samples or extracts;

(d) what was done with such samples or extracts at the conclusion of such testing.

See tables 5, 6A, 6B, 7 and 8. See annexure E for photos of the shoes, jeans and sloppy-joe.

76 A section of material from the inside waistband of the sloppy-joe (area v) was retained in the freezer.
A section of fabric from the left cuff of the sloppy joe (item 3i) and a stored area of the jeans (area iv) remains in cold storage.

77 The analytical techniques applied were appropriate to the type of sample and the purpose of the testing.

78 It appeared that the jeans had been washed as the stains looked washed-out and dilute.

Q17. What precisely were the results of all such 2022/23 testing (including as to any reference sample)?

See tables 5, 6A, 6B, 7 and 8.

Cleaning of Clothes

Q18. Assuming the clothing had been cleaned by police in late November or early December 1989, by any of the three possible methods referred to on the first page of this letter, how would this have affected the testing undertaken in 2002, 2016 and 2022/2023?

79 Cleaning will typically dilute and /or remove staining and therefore make the DNA less concentrated. If the DNA is not totally removed, cleaning may also encourage degradation of DNA which means that some of the larger fragments of DNA will be lost. The type of cleaning will affect the ability to recover DNA for testing, given variables such as (but not limited to):

- time since deposition,
- nature of wash (i.e., soaking or agitation),
- water temperature,
- use of detergent
- type of fabric
- exposure of sunlight on drying, and
- initial concentration of biological material on the clothing.

80 It should be noted that some chemicals used for cleaning purposes are known to significantly damage DNA.

81 Trace DNA, composing loose cells and cellular debris, which may have been present on the clothing may have been removed upon washing. Further deposition of trace DNA may have occurred after washing.

82 Any DNA remaining on the clothing after washing would also be expected to be continually degrading over time. In 2002 the DNA would be expected to be less degraded than in 2022/2023. Although the advancements in technology and increase in sensitivity of the testing since 2002, may potentially counteract the 20 year time delay.

Table 5

Sample	Testing Procedure in 2022/2023	DNA testing
Reference Sample - Peter RUSSELL	1. DNA testing using the Yfiler™ Plus DNA typing kit 2. PowerPlex® 21 DNA typing kit 3. Capillary electrophoresis conducted using 3500xl Genetic Analyser.	A DNA profile was obtained using the Yfiler™ Plus and the PowerPlex® 21 system

Table 6A

Fresh samples taken from the clothing	Testing Procedure in 2022/2023	DNA typing System		Results
		YFP	PP21	
1ii R. shoe – swab of black fabric towards toe	1. Automated Lysis 2. PrepFiler™ magnetic bead extraction of DNA 3. Quantifiler™ Trio testing – to determine amount of DNA	0	0	DNA was not detected so no further testing
1iii R. shoe, cut-out of black fabric towards toe		0	0	DNA was not detected so no further testing
1iv R. shoe, cut-out of trim fabric shoe towards toe		0	0	DNA was not detected so no further testing

YFP = Yfiler™ Plus

PP21= PowerPlex® 21

Table 6B

Fresh samples taken from the clothing in 2022/2023	Testing Procedure in 2022/2023	YFP	PP21	DNA Results
2vi jeans, cut-out of stain on front left leg between ankle and knee	1. Automated Lysis 2. PrepFiler™ magnetic bead extraction of DNA 3. Quantifiler™ Trio for quantitation of DNA 4a. DNA testing using the Yfiler™ Plus DNA typing kit and/or 4b. PowerPlex® 21 DNA typing kit. 5. Capillary electrophoresis conducted using 3500xl Genetic Analyser	1	0	2vi. YFP: The male DNA profile recovered is not suitable for interpretation due to the low level
2vii jeans, cut-out samples of stained area near the back right pocket, near Levis tag		5	0	2vii. YFP: DNA testing of one sample recovered a very weak profile, which gave indications of a YFP profile different to that of John RUSSELL. DNA testing of another four samples from the same area (using YFP) could not confirm this finding as there was insufficient DNA recovered to produce a result and therefore, the testing was unsuccessful.
2viii jeans, cut-out of stain on back left leg below pocket		1	0	2viii. YFP: The male DNA profile recovered is not suitable for interpretation due to the low level.
3i sloppy-joe, cut-out of stored stain from left cuff in 2002, taken from cold storage (from 2023)		1	0	3i. YFP: The male DNA profile recovered is not suitable for interpretation due to the low level.
3iii sloppy-joe, cut-out of stain on back of left sleeve		1	2	3iii. YFP, PP21: DNA testing was unsuccessful as insufficient DNA recovered.
3iv sloppy-joe, cut-out of stain on side of left sleeve on sewn on patch, near elbow (to avoid dye from garment)		1	2	3iv. YFP, PP21: DNA testing was unsuccessful as insufficient DNA recovered.
3v sloppy-joe, cut-out of stain on inside waistband (not present on outside of sloppy joe)		1	3	3v. YFP: DNA testing was unsuccessful as insufficient DNA recovered. PP21: A very weak male partial DNA profile was recovered using the PowerPlex 21® system (to be used as a **putative reference sample for John RUSSELL**).

Table 7

DNA extracts	Testing Procedure in 2022/2023	YFP	PP21	Results
2i right upper thigh (stored in 2002)	1. Quantifiler™ Trio testing – to determine amount of DNA	0	0	Insufficient DNA for DNA profiling
3i Left cuff	1. PrepFiler™ magnetic bead re-extraction of DNA 2. Quantifiler™ Trio testing – to determine amount of DNA	0	0	Insufficient DNA for DNA profiling
2v right upper thigh (near area 1) stored in 2016	1. DNA testing using the Yfiler™ Plus DNA typing kit. 2. Capillary electrophoresis conducted using 3500xl Genetic Analyser.	3	0	YFP: Very weak YFP profile which indicated that the DNA could have originated from John RUSSELL. Note: The weak partial PP21 result obtained in 2016 also supported this finding (using area v of the sloppy-joe as a putative reference for John RUSSELL).
3ii right cuff (stored in 2002)		2	0	YFP: Very weak YFP profile which indicates that the DNA could have originated from John RUSSELL. This finding has low statistical significance. Note: The weak partial PP21 result obtained in 2016 also supported this finding (using 'area v' of the sloppy-joe as a putative reference for John RUSSELL).

YFP = Yfiler™ Plus

PP21= PowerPlex® 21

Table 8

DNA extracts	DNA Testing procedure in 2023		Software to interpret the DNA profile	Results
	YFP	PP21	STRmix	
R1	0	0	1	PowerPlex® 21: Mixed DNA profile originating from at least three contributors (obtained in 2016). This profile did not meet quality standards as **Person '1'** on our elimination database* and could not be excluded as a contributor to this mixture. This profile is too weak and complex for further interpretation.
R2	1	0	0	PowerPlex® 21: Mixed DNA profile originating from at least two individuals (obtained in 2016). This profile is too weak for further interpretation. YFP: The male DNA profile recovered is not suitable for interpretation due to the low level.
R3	1	1	1	PowerPlex® 21: Mixed DNA profile originating from at least four individuals. The major component originates from an unknown male (**Individual 'B'**) and could not have originated from Peter RUSSELL or the same contributor as the profile recovered from 3v (putative reference sample for John Russell). Individual 'B' could be the biological father of Peter Russell. It is approx. 700 times more likely to obtain the profile if Individual 'B' is the biological father of Peter RUSSELL, rather than an unknown, unrelated male individual in the Australian population. The DNA from the minor contributors is not suitable for comparison due to the low level and complexity. YFP: The partial Y-STR profile recovered matches the profile of Peter RUSSELL and is expected to match all male relatives on his paternal line.
R4	1	1	1	PowerPlex® 21: Mixed DNA profile originating from at least four individuals. The major contributor, originating from an unknown female (**Individual 'A'**) was determined using STRmix and has been uploaded onto the DNA database, with no links to date. The DNA from the minor contributors is not suitable for comparison due to the low level and complexity. YFP: The weak partial profile recovered could have originated from a male on the same paternal line as Peter RUSSELL. Traces of another male may also be present at levels too weak to interpret.

DNA extracts	DNA Testing procedure in 2023		Software to interpret the DNA profile	Results
	YFP	PP21	STRmix	
R5	0	1	0	PowerPlex® 21: Mixed DNA profile originating from at least two individuals. This partial, mixed DNA profile is not suitable for interpretation due to the low level and complexity.
R6	0	1	1	PowerPlex® 21: Mixed DNA profile originating from at least two individuals. This partial, mixed DNA profile is not suitable for further interpretation due to the low level and complexity.
R7	1	1	1	PowerPlex® 21: Mixed DNA profile originating from at least three individuals. Due to the low level and complexity of this mixture, the profiles of the individual contributors could not be determined. YFP: The partial DNA profile recovered originates from at least two different paternal lines (including at least one from someone other than the paternal line of John Russell). This profile is too weak to determine the individual contributors or for entry on to the DNA database.
R8	1	0	1	PowerPlex® 21: Mixed DNA profile originating from at least three individuals (obtained in 2016). **Individual 'B'** cannot be excluded as the major contributor to this mixture (determined using STRmix). This profile could not have originated from Peter Russell (or John Russell - using item 3v as a reference) YFP: The weak partial profile recovered could have originated from a male on the same paternal line as Peter RUSSELL.
R9	1	0	0	PowerPlex® 21: Mixed DNA profile originating from at least two individuals (obtained in 2016). This profile is too weak and complex for further interpretation. YFP: Mixed DNA profile originating from at least two different paternal lines. This profile is too weak and complex for further interpretation.

R10	1	1	1	PowerPlex® 21: Mixed DNA profile originating from at least four individuals. This profile is too weak to determine the individual contributors (please note: Individual 'B' and Person '1' may be contributors to this mixture). Y-STR: Mixed DNA profile originating from at least three different paternal lines. This profile is too weak and complex for further interpretation.
R11	0	1	1	PowerPlex® 21: Mixed DNA profile originating from at least four contributors. This profile did not meet quality standards as **Person '2'** on our elimination database* could not be excluded as a contributor to this mixture. This profile is too weak and complex for further interpretation.
R12	0	0	0	PowerPlex® 21: Mixed DNA profile originating from at least two contributors (obtained in 2016). This profile did not meet quality standards as **Person '1'** on our elimination database* could not be excluded as the major contributor to this mixture. The minor component is too weak for interpretation.
R13	1	1	1	PowerPlex® 21: Mixed DNA profile originating from at least four contributors. This profile did not meet quality standards as both **Person '1' and Person '2'** on our elimination database* could not be excluded as contributors to this mixture. This profile is too weak and complex for further interpretation.
R14	1	0	0	PowerPlex® 21: Mixed DNA profile originating from at least three contributors. This profile is not suitable for further interpretation due to the low level and complexity. YFP: The male DNA profile recovered is not suitable for interpretation due to the low level.
R15	0	0	0	DNA testing carried out in 2016 was unsuccessful. Further testing has not been carried out.

* **The elimination database** is a register of DNA profiles of staff working at FASS and some Police personnel, mainly those concerned with collecting forensic exhibits. It is maintained in the case of an inadvertent DNA contamination event of an item by a member of staff during collection or processing of DNA.

Note: All profiles in the above table that have been interpreted using STRmix, have been searched on the NSW DNA database to determine if there are person matches, even though the profile of the contributors may be unsuitable for upload.

83 Any samples retained in the freezer are kept in the ideal environment to limit further degradation.

Mixed DNA Profiles

Q19. The Inquiry understands that the results of testing carried out in both 2016 and 2022/23 included one or more instances of DNA profiles which had indications of more than one contributor ("mixed DNA profiles"). In that regard, please provide the following information, separately with respect to the 2016 testing and the 2022/23 testing:

As to the 2016 testing

(a) From precisely which parts of the clothing, and/or samples, and/or extracts (distinguishing between such items provided in 2001 and such items provided in 2016) did such mixed DNA profiles come?

84 Mixtures from 2016 tapelifts R1 to R14 (inclusive) see table 8.

(b) Were the same mixed DNA profiles present in all, or more than one, of the jeans, sloppy joe and shoes? In other words, is it possible to say whether the "contributors" (more than one) to the mixed DNA profile on the jeans were the same contributors as for the sloppy joe and/or the shoes?

85 There was no distinct patterns to the DNA mixtures recovered from the tapelifts submitted in 2016.

86 The partial profiles recovered from the apparent blood staining on the sloppy joe and jeans were similar and presumed to originate from the deceased. The DNA from a possible second contributor were too weak to interpret.

As to the 2022/23 testing

(a) From precisely which parts of the clothing, and/or samples, and/or extracts (distinguishing between such items provided in 2001, such items provided in 2016 and such items provided in 2022/23) did such mixed DNA profiles come?

87 Area iii of the jeans (item 2) – front left ankle - recovered a weak partial DNA profile with indications it was a mixture of more than one contributor.

88 Area ii of the sloppy joe (item 3) - right cuff - recovered a very weak partial profile with indications of more than one contributor

(b) Were the same mixed DNA profiles present in all, or more than one, of the jeans, sloppy joe and shoes? In other words, is it possible to say whether the "contributors" (more than one) to the mixed DNA profile on the jeans were the same contributors as for the sloppy joe and/or the shoes?

89 Individual '1' could not be excluded as being a contributor to the DNA mixtures from R1 (upper ankle of R. shoe), R12 (upper front of sloppy-joe) and R13 (lower front of sloppy-joe). Individual '1' matches a profile on our quality control register.

90 Individual '2' could not be excluded as being a contributor to the DNA mixtures from R11 (L. sleeve of sloppy-joe) and R13 (lower front of sloppy-joe). Individual '2' matches a profile on our quality control register.

91 Male individual 'B' could be a contributor to the DNA mixtures from R3 (front R. pocket of jeans) and R8 (rear belt line of jeans). Individual B could be the biological father of Peter Russell.

92 An unknown female (individual 'A') could be a contributor to the DNA mixture from R4 (front L. pocket of jeans).

93 Due to the low levels and complexity of the mixtures I am unable to comment on the similarities or differences of the mixed profiles.

Persistence

Q20. In respect of all DNA profiles recovered in any of the testing procedures referred to above: what is the likely persistence of that DNA? How long before Mr Russell's death is it likely that that DNA came in contact with the relevant item of clothing?

94 The type of DNA encountered in this case can generally be categorised in terms of two main types-

1. Trace DNA (originating from loose skin cells and cellular debris) and
2. DNA from a stronger biological source of DNA, such as blood.

95 **Trace DNA**

96 Tapelifts taken from the clothing is designed to lift skin cells or cellular debris resting on the surface of the garment. Determining the time of deposition of trace DNA is not possible for the following reasons (not exhaustive).

97 The chain of custody of the items were not maintained as the exhibits were said to have been returned to Mr Peter Russell's family before they were forensically examined. DNA from skin cells (trace DNA) could potentially be deposited onto any of the items from anyone who inspected the clothing, before they were returned to police and eventually examined in the lab.

98 With the apparent washing procedure conducted by Police, prior to the forensic examination of the items, it is possible that trace DNA, composing loose cells and cellular debris, which may have been present on the clothing, may have been removed upon washing. It would seem unlikely that the trace DNA found was present before Mr John Russell's death. However further deposition and repositioning of trace DNA may also have occurred, during and after washing. The source of DNA is dependent on what was previously or concurrently washed with the items, and what DNA sources were on the other garments.

99 Trace DNA can be contaminated from an external source, such as with an examiner of handler's own DNA. The record of the clothes being washed and the detection of DNA profiles matching a person on the quality control elimination database support the proposition that the DNA was deposited after the items were examined in 2016.

100 Testing for trace DNA was only implemented in NSW around the year 2000. In 1989, there was no awareness regarding exhibit handling practices to minimise DNA contamination and were therefore not part of standard police procedures at this time.

101 Given the above rationale, it is reasonable to conclude that the trace DNA results obtained may not relate to the events leading to Mr Russell's death.

DNA from apparent blood stains

102 If a blood stain is washed in cold water soon after its deposition on a fabric it can likely remove all traces of blood. If blood has had time to set it is difficult to remove the staining, and depending on the starting material, some fabrics such as cotton have been found to retain blood longer than a synthetic such as nylon.

103 Currently I am not aware of a method that can be used to age the DNA recovered on the clothing. Therefore it is unknown how long before (or after) Mr Russell's death is it likely that DNA came in contact with the relevant item of clothing.

104 It is impossible to determine when the apparent blood stains were deposited on the clothing of John Russell. They appeared to be washed out and old looking but all that can be stated is that they were present on the garment some time before they were examined in 2001/2002.

Signature: 

Date: 23.08.2023

Annexure A

New South Wales

Special Commission of Inquiry into LGBTIQ hate crimes

18 August 2023

Clint Cochrane
Laboratory Manager, Forensic Biology/DNA
Forensic and Analytical Science Service
480 Weeroona Road
LIDCOMBE NSW 2141

By email: [redacted]

Dear Mr Cochrane,

Special Commission of Inquiry into LGBTIQ hate crimes – John Russell

I refer to the above Inquiry, and to the ongoing contact between staff of the Inquiry and the Forensic and Analytical Science Service ("FASS") regarding the death of John Russell in November 1989.

As you know, the Inquiry seeks a report addressing questions relating to tests carried out on items of Mr Russell's clothing at various times since 1989, including (at the Inquiry's request) this year. The nature and content of those questions have been the subject of discussions between FASS and the Inquiry in recent months, and I am aware that the report has been in the course of preparation for some time. This letter formally sets out the questions to be addressed. Thank you for your continuing assistance.

Death of John Russell

Mr Russell was found dead on 23 November 1989 at about 10.30am at the base of a cliff below the walkway of Mackenzie's Point between Bondi and Tamarama. He had been last seen alive at about 11pm the previous evening 22 November. At the time of his death, he was wearing bone coloured Levi jeans, a red sloppy-joe and Lyrebird brand gym shoes ("the clothing").

In the course of our Inquiry, it has come to light (and we ask you to assume) that in late November or early December 1989, the clothing was 'cleaned' for the purposes of being placed on a mannequin in the course of an appeal to the public for information about Mr Russell's death. The precise nature of such 'cleaning' has not been able to be established. It may have been, for example:

a. 'Cleaning' by way of washing in water only;

b. 'Cleaning' by way of washing in an ordinary washing machine, using a cleaning agent or agents such as detergent;

c. 'Cleaning' by way of washing or dry cleaning in a commercial laundry, using a cleaning agent or agents such as detergent.

The Inquiry's understanding is that no testing of the clothing, of any kind, was requested of, or carried out by, DAL in 1989/90. Please confirm, or advise if this understanding is incorrect.

The Inquiry also understands that various tests were carried out in three separate subsequent timeframes, namely in or about: 2001/02 (by DAL, at the request of the NSWPF); 2016 (by FASS, at the request of the NSWPF); and in 2022/23 (by FASS, at the request of the Inquiry). Please confirm or advise if this understanding is incorrect.

The Inquiry would be grateful for a report from an appropriately qualified person at FASS, addressing the following questions in relation to the clothing and any other exhibits referable to this matter:

Testing in 1989

1. Was any forensic testing of the clothing carried out by DAL, between November 1989 and July 1990? If so, please outline those results and provide any records held in relation to any such testing.

2. As at November 1989-July 1990, what testing (for DNA or otherwise) could have been conducted on the clothing by DAL, identifying the technology then available, if the clothing had been provided to DAL?

Testing in 2001/2002

3. What clothing referable to this matter was provided to DAL in about June 2001 for forensic testing?

4. What precisely was the testing, using what technology, that was undertaken by DAL in 2001/02 on that clothing? In answering this question, please specify:

   (a) whether, and by what means, and from where, any samples or extracts were cut or lifted from any part of the clothing;

   (b) what testing techniques were applied to the clothing and/or to such samples or extracts;

   (c) what was done with such samples or extracts at the conclusion of such testing.

5. What precisely were the results of all such testing in 2001/02? Please attach any records of results.

6. When were the 2001/02 results conveyed to police? Please attach the relevant correspondence to police.

7. Did DAL suggest in about 2001/02 that a reference sample should be obtained from a family member of Mr Russell so that comparison testing such as Y chromosome testing could occur? If not, why not? What comparison testing was possible at the time?

8. What were the limitations of the relevant testing technology available in 2001/02, by comparison with 2023?

Testing in 2016

9. What clothing, and/or samples, and/or extracts referable to this matter were provided to FASS in 2016 for forensic testing and when?

10. What precisely was the testing, using what technology, that was undertaken by FASS in 2016 on that clothing, and/or samples, and/or extracts? In answering this question, please specify:

    (a) whether the testing in 2016 was carried out on samples and/or extracts already obtained in 2001/02, or whether the 2016 testing was carried out on different and/or additional samples and/or extracts;

(b) if the latter, by what means, and from where, any samples or extracts were cut or lifted from any part of the clothing in 2016;

(c) in relation to all testing in 2016, what testing techniques were applied to such samples or extracts;

(d) what was done with such samples or extracts at the conclusion of such testing.

11. What precisely were the results of all such 2016 testing? Please attach any records of results.

12. When were the 2016 results conveyed to police? Please attach any relevant correspondence to police.

13. Did FASS suggest in 2016 that a reference sample from a family member of Mr Russell should be obtained so that comparison testing such as Y chromosome testing could occur? If not, why not? What comparison testing was possible at the time?

14. What were the limitations of the relevant testing technology available in 2016, by comparison with 2023?

Testing in 2022/2023

15. What clothing, and/or samples, and/or extracts referable to this matter were tested by FASS in 2022/2023?

16. What precisely was the testing, using what technology, that was undertaken in 2022/2023 on that clothing, and/or samples, and/or extracts? In answering this question, please specify:

(a) whether the testing in 2022/23 was carried out on samples and/or extracts already obtained in 2001/02 and/or in 2016, or whether the 2022/23 testing was carried out on different and/or additional samples and/or extracts;

(b) if the latter, by what means, and from where, any samples or extracts were cut or lifted from any part of the clothing in 2022/23;

(c) in relation to all testing in 2022/23, what testing techniques were applied to such samples or extracts;

(d) what was done with such samples or extracts at the conclusion of such testing.

17. What precisely were the results of all such 2022/23 testing (including as to any reference sample)?

Cleaning of clothes

18. Assuming the clothing had been cleaned by police in late November or early December 1989, by any of the three possible methods referred to on the first page of this letter, how would this have affected the testing undertaken in 2002, 2016 and 2022/2023?

Mixed DNA profiles

19. The Inquiry understands that the results of testing carried out in both 2016 and 2022/23 included one or more instances of DNA profiles which had indications of more than one contributor ("mixed DNA profiles"). In that regard, please provide the following information, separately with respect to the 2016 testing and the 2022/23 testing:

As to the 2016 testing

(a) From precisely which parts of the clothing, and/or samples, and/or extracts (distinguishing between such items provided in 2001 and such items provided in 2016) did such mixed DNA profiles come?

(b) Were the same mixed DNA profiles present in all, or more than one, of the jeans, sloppy joe and shoes? In other words, is it possible to say whether the "contributors" (more than one) to the mixed DNA profile on the jeans were the same contributors as for the sloppy joe and/or the shoes?

As to the 2022/23 testing

(a) From precisely which parts of the clothing, and/or samples, and/or extracts (distinguishing between such items provided in 2001, such items provided in 2016 and such items provided in 2022/23) did such mixed DNA profiles come?

(b) Were the same mixed DNA profiles present in all, or more than one, of the jeans, sloppy joe and shoes? In other words, is it possible to say whether the "contributors" (more than one) to the mixed DNA profile on the jeans were the same contributors as for the sloppy joe and/or the shoes?

Persistence

20. In respect of all DNA profiles recovered in any of the testing procedures referred to above: what is the likely persistence of that DNA? How long before Mr Russell's death is it likely that that DNA came in contact with the relevant item of clothing?

Please attach this letter to your report, and include in your report an acknowledgement that you have considered and taken into account its contents. Please also attach any photographs held by FASS of Mr Russell's clothing and the date of those photographs.

We would be grateful to receive the statement by **23 August 2023.**

Thank you again for your ongoing assistance to the Inquiry.

Please do not hesitate to contact Emily Burston on [redacted] if you have any queries in relation to this matter.

Yours faithfully,

Emily Burston
Senior Solicitor
Solicitor Assisting the Inquiry

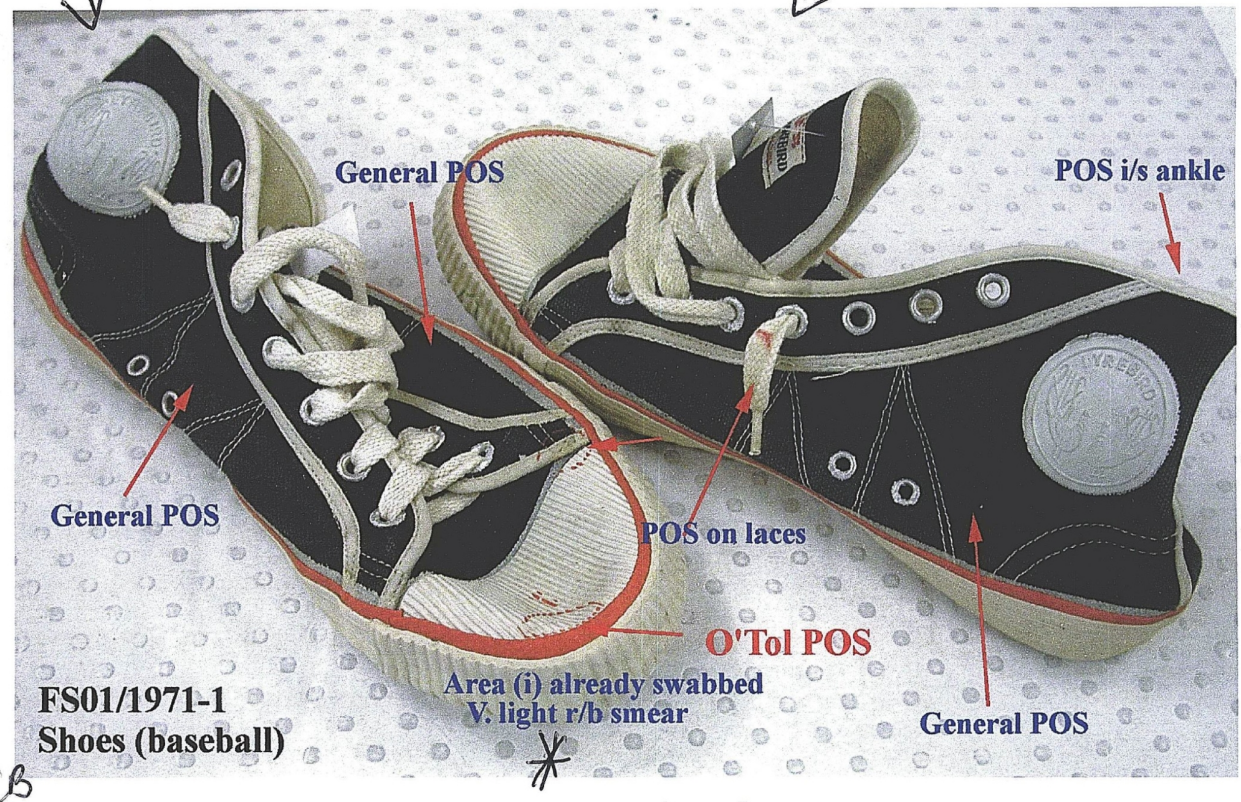
C2

6/46

Annexure B

LEFT FOOT

RIGHT FOOT

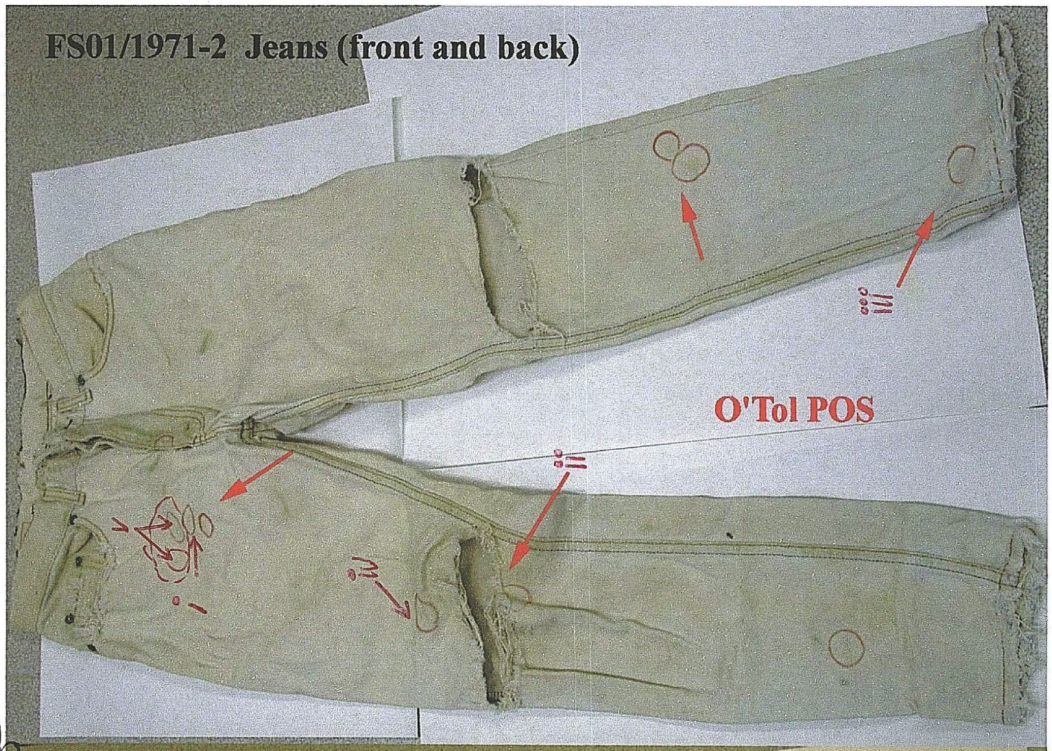


CB

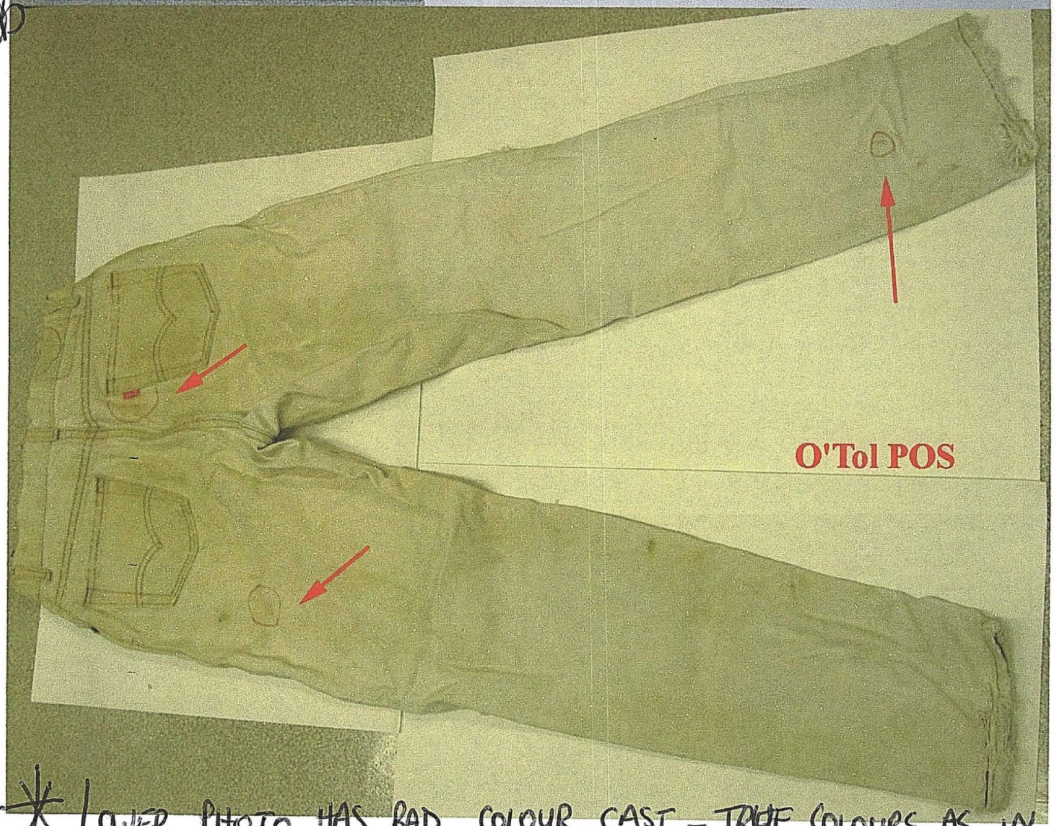
Took photo after swabbing.

VB

C5 9/46.



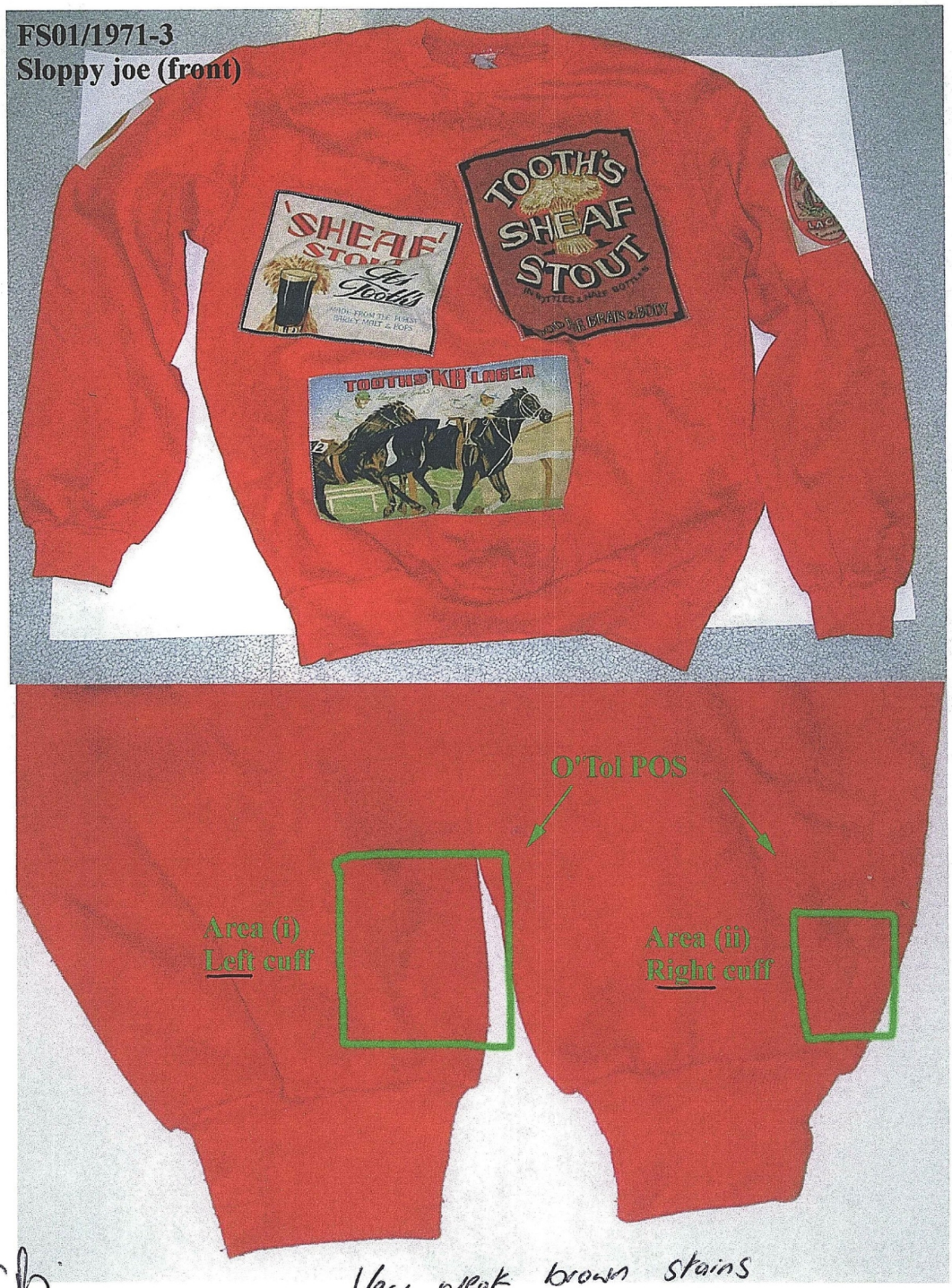
(b)



* LOWER PHOTO HAS BAD COLOUR CAST - TRUE COLOURS AS IN *. THE UPPER PHOTO.

VB

C7 11/46



CB

Very weak brown stains
Not visible in Photo.

RB

A1

1/46

Annexure C

icpmr

Institute of Clinical Pathology and Medical Research

WESTMEAD HOSPITAL THE UNIVERSITY OF SYDNEY

WESTERN SYDNEY AREA HEALTH SERVICE

Division of Analytical Laboratories

Joseph Street, Lidcombe
(Weeroona Rd Entrance)
PO Box 162
Lidcombe NSW 2141 Australia
DX 28412 Parramatta
Tel: 02 9646 0222
Fax: 02 9646 0333

Director
Professor C. J. Eastman AM
MD (Syd) FRACP, FRCPA

Deputy Director
Dr R. Vining
PhD, MBA, FRACI, FAIM

REF: FS 01/1971

RE: Alleged Murder of John RUSSELL

I, Vivien BEILBY,

hereby certify as follows:

(1) My scientific qualifications are Bachelor of Arts (Biochemistry) from Macquarie University and I have specialised knowledge based on my training, study and experience.

(2) The following items in connection with this matter were received on the eighteenth day of June 2001, from Constable HARRISON of the Rose Bay Police.

1. Shoes
2. Jeans
3. Sloppy joe
4. Coins

(3) These items have been examined with the following results:

A preliminary or 'screening' test for blood was positive on the shoes (item 1), jeans (item 2) and sloppy joe (item 3).

DNA testing conducted on staining from these items was unsuccessful.

VB

A2 2/46

REF: FS 01/1971

(4) Item 4 was not examined.

(5) Other scientific staff may have assisted with the processing and analysis of items from this case.

Biologist's Signature: Vivien Beilby

Date: 11/1/03

A3

Annexure D

NSW GOVERNMENT Health Pathology

Forensic & Analytical Science Service

Police Report

RE: Alleged Murder of John RUSSELL

FASS Ref: FS011971

Police Ref: C12595717

Item No	Item Description	Results
1	Shoes	
1Li	Front toe of left shoe	Additional DNA testing was carried out using the PowerPlex 21 System. Profile is too weak for interpretation.
2	Jeans	
2iii	Lower left leg	Additional DNA testing was carried out using the PowerPlex 21 System. Mixed DNA profile, weak/complex.
2v	Right upper thigh	Additional DNA testing was carried out using the PowerPlex 21 System. Profile is too weak for interpretation.
3	Sloppy Joe	
3i	Left cuff	Additional DNA testing was carried out using the PowerPlex 21 System. DNA testing was unsuccessful.
3ii	Right cuff	Additional DNA testing was carried out using the PowerPlex 21 System. Mixed DNA profile, weak/complex.

If a court report is required please contact the FIRM DNA Helpdesk (02 88358527).

NSW Health Pathology
ABN 49 382 586 535

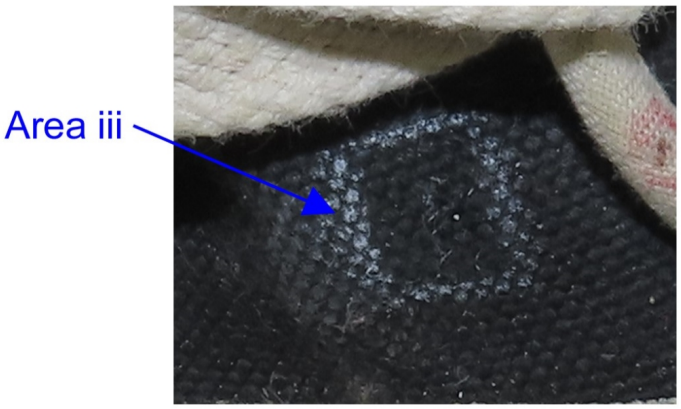
NSW Forensic & Analytical Science Service
Joseph Street (Weeroona Road entrance), Lidcombe
PO Box 162, Lidcombe NSW 2141
Tel (02) 9646 0222 Fax (02) 9646 0333

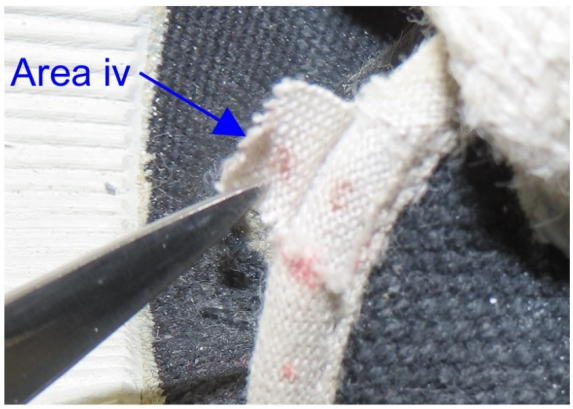
Annexure E

FS01/1971-1
Gym Shoes
JEY/MAF 08/05/2023

FS01/1971-1
Gym Shoes
JEY/MAF 08/05/2023

Right shoe

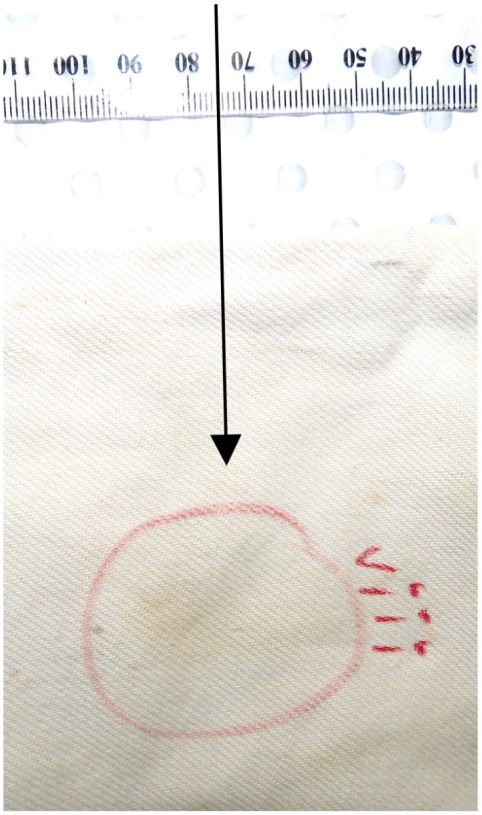




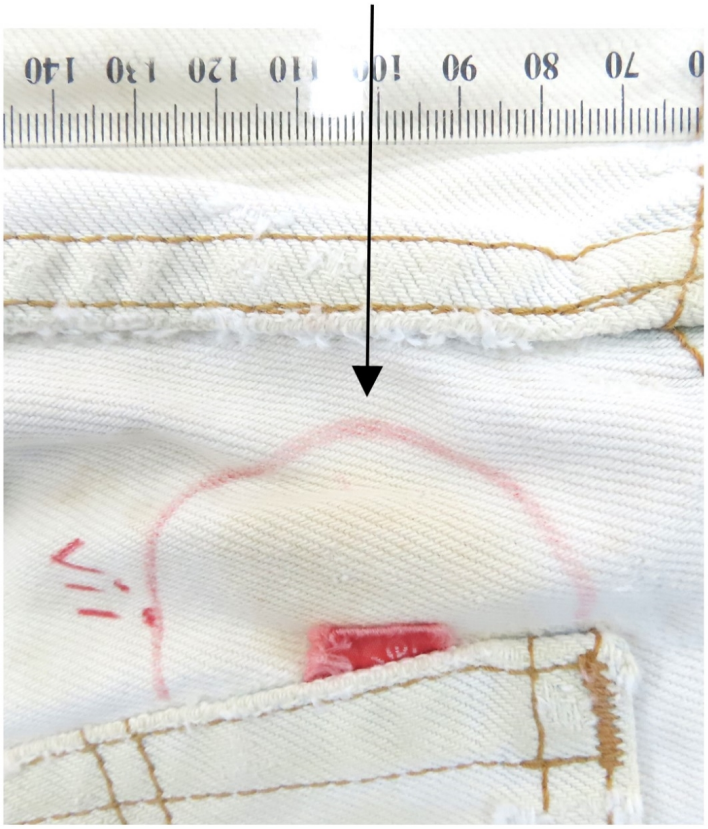
FS01/1971-2
Jeans
JEY/MAF 08/03/2023

Outside back

Area viii

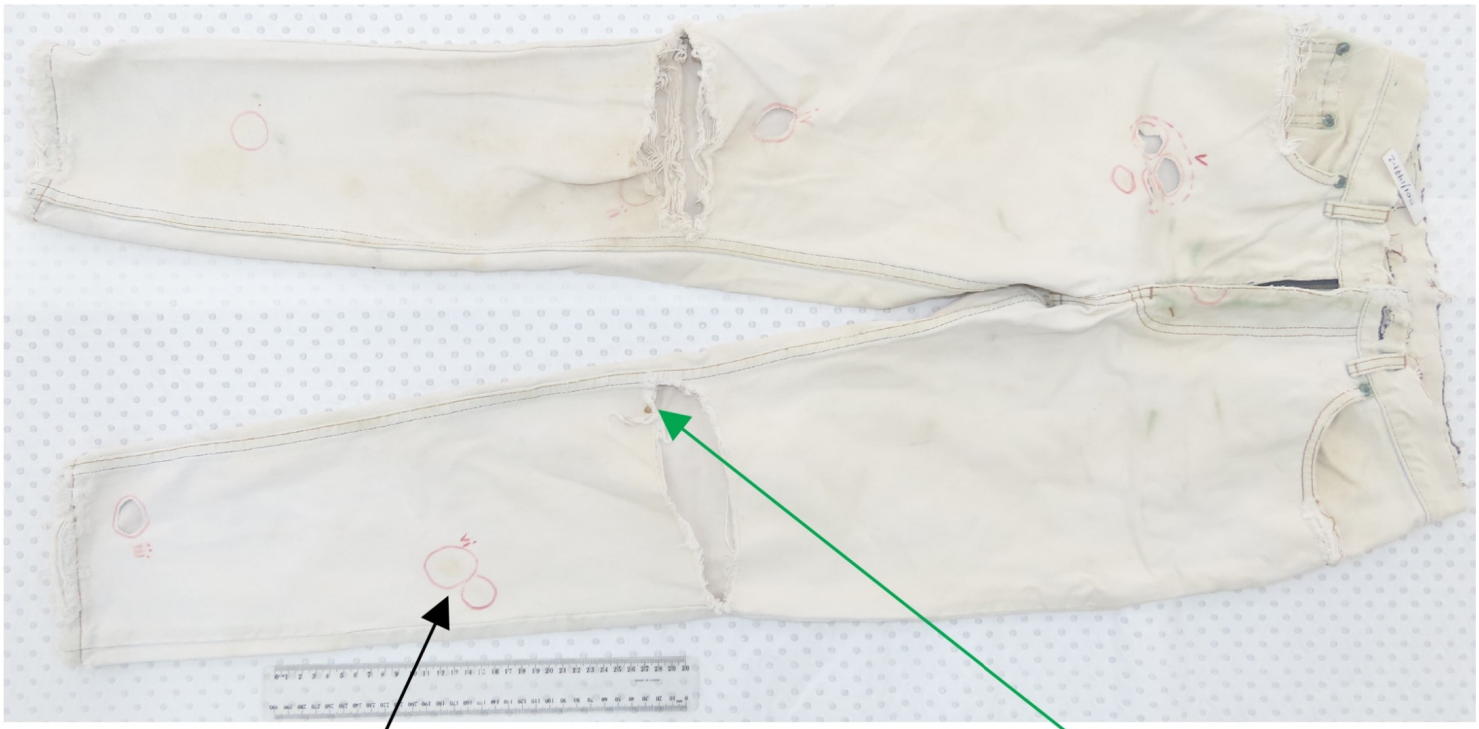


Area vii



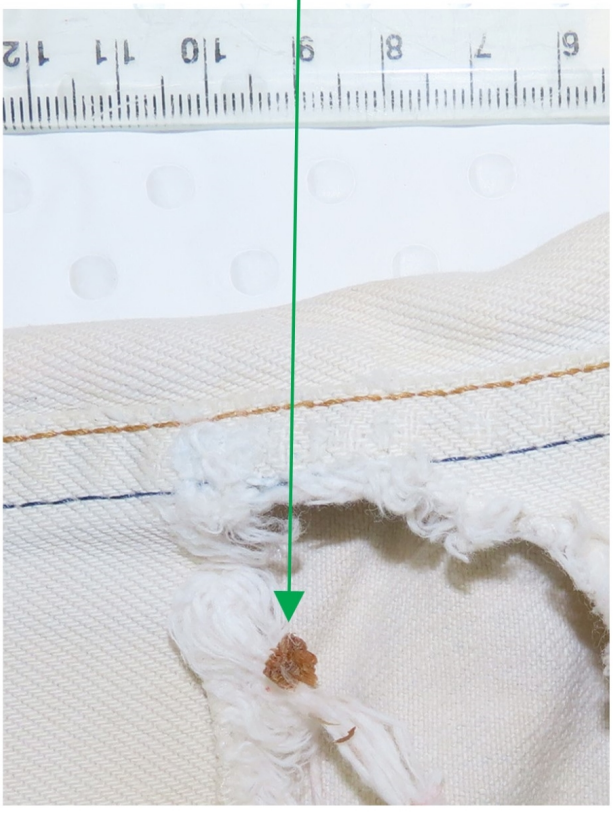
FS01/1971-2
Jeans
JEY/MAF 08/03/2023

Outside front

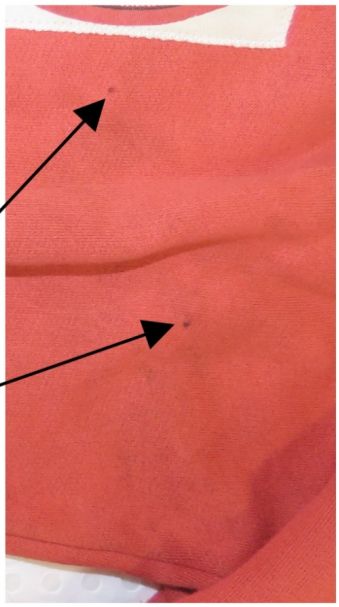


Area vi

o-Tol neg



FS01/1971-3
Red Sloppy Joe
JEY/MAF 01/05/2023



o-Tol pos

Area iv
o-Tol pos

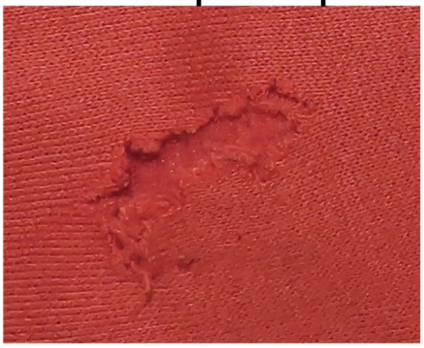
Outside back

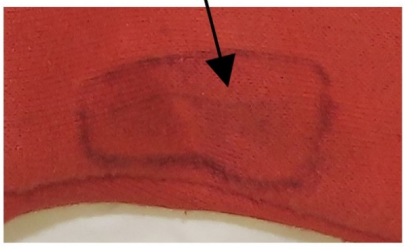
o-Tol neg

o-Tol pos

Area iii
o-Tol pos

Close up of rip:





Black markings on item indicate o-Tol positive tested areas.
Black dots represent the specific area of diffuse staining that was o-Tol tested

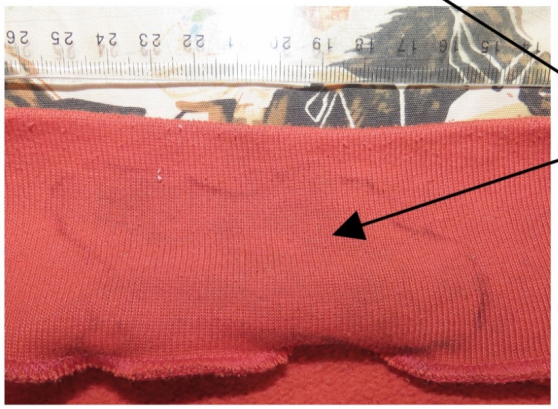
FS01/1971-3
Red Sloppy Joe
JEY/MAF 01/05/2023

o-Tol pos

Outside front

o-Tol neg

o-Tol neg



Area v
o-Tol pos
(inside front)

FS01/1971-3
Red Sloppy Joe
JEY/MAF 01/05/2023

Inside front waistband