FINAL REPORT

COMMISSION OF INQUIRY TO EXAMINE
DNA PROJECT 13 CONCERNS

DR ANNABELLE BENNETT AC SC

17 November 2023

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The Honourable Annastacia Palaszczuk MP
Premier and Minister for the Olympics

The Honourable Shannon Fentiman MP
Minister for Health, Mental Health and Ambulance Services and Minister for Women

The Honourable Yvette D'ath MP
Attorney-General and Minister for Justice and Minister for the Prevention of Domestic and Family Violence

Dear Premier, Minister, and Attorney-General

I am pleased to provide you with the report of the Commission of Inquiry to Examine DNA Project 13 Concerns, in accordance with the Terms of Reference set out in the *Commissions of Inquiry Order (No. 1) 2023*.

Yours sincerely

Dr Annabelle Bennett AC SC
Commissioner

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We pay respect to the traditional custodians and first peoples of Queensland, Australia, and acknowledge their continued connection to their country and culture.

A. EXECUTIVE SUMMARY

Overview

- This Commission of Inquiry (**COI**) was convened to consider public statements and other documents and expert evidence in relation to a report prepared by the Queensland Health Forensic and Scientific Services (**QHFSS**) Laboratory entitled, '*Project 13: Report on the Verification of an Automated DNA IQ Protocol using the MULTIPROBE II PLUS HT EX with Gripper Integration Platform'*, dated August 2008 (**Project 13 Report**).

- The Project 13 Report led to the introduction on 29 October 2007 of an automated DNA extraction system (**Automated DNA IQ Method**) for use with the 'MULTIPROBE II Plus HT EX Forensic Workstation Platform' (**MultiProbe Device**) at the QHFSS Laboratory. The Automated DNA IQ Method ceased being used by the QHFSS Laboratory on 21 November 2016. The circumstances in which the Project 13 Report came to be prepared and the consequences of the adoption of the process said to be validated by it, for the purposes of the extraction of DNA from forensic samples by the QHFSS Laboratory, are investigated by this COI.

- The scope of inquiry of the COI is limited by its Terms of Reference (see **Appendix A**) and by the timeframe provided for its existence. That timeframe encompassed the setting up of the COI; the provision of notices to produce evidence by way of answers to questions and the obtaining and submission of documents in relation to matters going back to 2007; the consideration of material received including statements of evidence and written submissions; public hearings; and the writing of this report. It would not have been possible without the commitment and expertise of each and every person who formed part of the COI (see **Appendix B**).

- Having regard to the evidence given before the COI, which included evidence from the named authors of the Project 13 Report, and evidence given by expert witnesses from the Commission of Inquiry into Forensic DNA Testing in Queensland (**First COI**), it is apparent that the Automated DNA IQ Method was introduced at the QHFSS Laboratory without having been scientifically validated. At no point before its introduction on 29 October 2007 through to cessation of use on 21 November 2016 was the Automated DNA IQ Method scientifically validated for use at the QHFSS Laboratory.

- The Automated DNA IQ Method extracted less DNA than comparable manual methods. It follows that samples that were subject to this method of extraction that recorded insufficient DNA for further testing may well have contained sufficient DNA for forensic purposes. It goes without saying that the evidence available for criminal trials may thus have been compromised and convictions that could otherwise have been secured did not occur.

- As a consequence, the COI recommends that all samples previously tested using the Automated DNA IQ Method be re-tested, wherever possible and in accordance with a proper process of re-testing. It is not sufficient to re-test DNA extracted by the Automated DNA IQ Method. The relevant recommendation from the **First COI** should be amended to make this clear.

- A separate issue was addressed by the COI concerning expert evidence given by Adjunct Professor Linzi Wilson-Wilde (**Dr Wilson-Wilde**) before the First COI. The COI considers that Dr Wilson-Wilde's failure to refer to the low yields in automated DNA extraction in the Project 13 Report in her expert report dated 20 October 2022 was a consequence of the pressures under which she was working to produce a report and the instructions that she received, which were confined to an examination of the issue of contamination experienced from use of the Automated DNA IQ Method in 2008-2009. She did state that Project 13, in its entirety, did not conform with international best practice. She did not draw the First COI's attention to the deficiencies of the Project 13 Report in any way that conveyed the importance of the fact that there were major inadequacies in the Automated DNA IQ Method, or that the low yields obtained by that method of extraction undermined the forensic purpose of that extraction.

- Dr Wilson-Wilde is currently the Chief Executive Officer (**CEO**) of the former QHFSS, now renamed Forensic Science Queensland (**FSQ**). The evidence is unequivocal that she is performing well in that role and implementing, in a staged and managed fashion, the Recommendations of the First COI.

Summary of conclusions in this Report

The Project 13 scientists – the implementation of the failed method

- The concept of taking a DNA extraction system validated by either a manufacturer or another reputable laboratory was scientifically valid. The expectation of the QHFSS Laboratory's scientists was that: (i) adopting the system would be reasonably straightforward; and (ii) they would be able to take the validated system and modify it to encompass an automated version of a manual extraction method. In implementing the system in this manner, problems were nonetheless encountered in the QHFSS Laboratory.

- The understandable desire in the QHFSS Laboratory for efficiency and to overcome a backlog of important samples for testing appears to have superseded the need for scientific accountability and scientific integrity.

- Project 13 and its subject matter, being the introduction of the Automated DNA IQ Method for use on the MultiProbe Device, was fatally flawed. At no time before or after Project 13 was implemented was the Automated DNA IQ Method validated.

- The consequences of the many cultural and operational inadequacies in the QHFSS Laboratory were reflected in the evidence in this COI. In particular, it is apparent that there was no proper appreciation of what was happening in the use of the Automated DNA IQ Method. Matters such as a lack of line of sight over the whole process from sample to final profiling, inadequate reporting, an apparent lack of understanding of what constituted a proper validation process and a lack of assurance and quality control, all contributed to what could be described as a potentially devastating outcome for the criminal justice system, including victims and their families. As was stated by the independent experts, for casework, every sample is critical and precious.

- Further, the reporting of such experiments as were carried out was haphazard at best. For example, the Project 13 Report went through numerous iterations of unknown consequence, was never finalised, and the method purportedly validated was implemented even though it was a draft report and one for which no one claims responsibility, even for its writing. This reflects a systemic failure in the governance of the QHFSS Laboratory. Nevertheless, this COI accepts that the scientists were, collectively, doing their best to overcome problems as they arose, in circumstances where it would seem that delay of implementation was not perceived as a real option for them by reason of a desire urgently to implement automation.

- Given that the scope of this COI has not enabled a full examination of the roles of any of the individuals within the hierarchy of the QHFSS Laboratory, I do not consider that there is sufficient evidence before me to determine the question, fairly and within the allowed timeframe, of where the full accountability for the decision to implement the Automated DNA IQ Method and its consequences lies.

The need for re-testing

- The time period during which the Automated DNA IQ Method was used by the QHFSS Laboratory was from 29 October 2007 to 21 November 2016. Although that time period encompasses the use of the Chelex method of extraction for the MultiProbe Device and testing that indicated appropriate efficiency of the MultiProbe Device itself as at April 2009, no proper validations were carried out to support the reliability of the whole procedure of extracting DNA and then utilising the MultiProbe Device.

- Accordingly, no faith can be placed in results over the whole of the period from 29 October 2007 to 21 November 2016 in cases where there was a failure to measure extracted DNA from samples sufficient for processing. It follows that all samples in that time period where no, or insufficient, DNA was extracted should be reassessed. Where samples are amenable to re-extraction, decisions should be made for re-extraction and re-testing in accordance with Recommendations 13 and 14 of the First COI's Final Report dated 13 December 2022 (**First COI Report**). These Recommendations conform with the process described by the independent experts in this COI.

Dr Wilson-Wilde's review of the Project 13 Report

- In providing expert evidence to the First COI, Dr Wilson-Wilde reviewed the Project 13 Report and says that, upon doing so, she identified the issues with the DNA yield that were apparent on the face of that report. However, nowhere in her 20 October 2022 report did Dr Wilson-Wilde report that the manual or automated extraction or hybrid manual/automated extraction methods as discussed in the Project 13 Report, or used in the time frame that the Project 13 Report purported to cover, disclosed a problem with DNA yield or extraction. What she did do was to identify that '*the verification of the automated method is not consistent with expected good practice'*. That did not draw attention to poor DNA yield nor to the consequences of a failure to extract sufficient DNA for subsequent testing. Thus, the First COI was not alerted to, and so did not investigate, the fundamental problem of insufficient DNA being extracted from samples by the Automated DNA IQ Method used with the MultiProbe Device. This could well have also provided greater insight into the observations of Ms Veth and Dr Budowle as to low yields of DNA observed in the case of Shandee Blackburn. One consequence of this failure was the need for this further COI, before there was a full and formal appreciation that all of the affected samples needed to be reviewed and re-tested.

- I consider that: (i) in her 20 October 2022 report Dr Wilson-Wilde raised the issue of a lack of proper validation and verification of the automated protocol and, specifically, of the Automated DNA IQ Method in the Project 13 Report; (ii) Dr Wilson-Wilde's report was directed to the contamination issue and therefore, that raising of validation and verification would not have been understood to raise the issue of problems with the DNA yield on extraction; and (iii) a reference by her to the greater extraction volume was in the context of contamination, not DNA recovery.

- As to whether Dr Wilson-Wilde informed the First COI of these matters other than in her 20 October 2022 report, on the evidence before the COI, Dr Wilson-Wilde either did not mention the yield issues evident in the Project 13 Report to junior counsel assisting the First COI or, if she did so, it was not done in a manner sufficient to gain counsel assisting's attention nor to suggest that further investigation was warranted.

- There is no evidence before this COI to properly support a conclusion that the fact that Dr Wilson-Wilde did not advert specifically to the yield issues in the Project 13 Report amounted to a deliberate decision to mislead the First COI; nor did she have a reason to do so.

Work undertaken to address the First COI Recommendations

- The evidence supports, without contradiction, the work being done by Dr Wilson-Wilde as the CEO of FSQ, to address the Recommendations in the First COI Report (**First COI Recommendations**). This includes making major changes to the culture and work practices of FSQ. While this will take some time, there is no evidence to support concern for the ongoing work of FSQ under her direction and under the external supervision of the interim FSQ Advisory Board and of Queensland Health.

- There is no evidence that would undermine public confidence in the current work of FSQ.

Recommendations

1. Subject to Recommendation 2, the QHFSS Laboratory should conduct a retrospective review of all samples previously tested using the MultiProbe Device between 29 October 2007 and 21 November 2016 to determine if they are capable of being re-tested for the purposes of DNA extraction. Samples that are so capable should be subject to DNA extraction and testing.

2. The process of that retrospective review and re-testing should be in accordance with that set out in Recommendations 13 and 14 of the First COI.

B. INTRODUCTION

1. The scope of this COI is set out in *Commission of Inquiry Order (No.1) 2023: Appointment of Commission*

> *3. On 13 December 2022, a* Commissions of Inquiry Order (No.3) 2022 Report *was handed down (the Report).*
> *4. The Report made 123 recommendations and all the recommendations were accepted by the Queensland Government.*
> *5. To ensure continued public confidence in the delivery of the recommendations, and following recent concerns raised, a further investigation will be undertaken.*
> *6. This new investigation will provide an opportunity for new information to be considered in relation to* 'Project 13. Report on the Verification of an Automated DNA IQ ™ Protocol using the MultiPROBE ® II PLUS HT EX with Gripper™ Integration Platform*' (Project 13).*
> *7. The Honourable Dr Annabelle Bennett AC SC is appointed as the Commissioner (the Commissioner).*
> *8. The Commissioner will undertake an open and independent inquiry to:*
> > *(a) Review recent public statements and other documents, including but not limited to documents that will be provided by Queensland Health, in relation to Project 13; and*
> > *(b) Consider whether the Recommendations in the Report are sufficient to address the matters raised in the above materials; and*
> > *(c) In undertaking a) and b) interview any or all experts who provided advice in Commissions of Inquiry Order (No.3) 2022 in relation to Project 13 or related DNA extraction methods*.

2. Those Terms of Reference (see **Appendix A**) determine the scope of the COI. It is not a wide-ranging Inquiry and follows the First COI conducted by Mr Walter Sofronoff KC, which was a more general investigation into forensic DNA testing in Queensland. The report of this COI should be read together with the First COI Report. The report will not repeat matters covered in the First COI Report unless it is considered necessary to do so, for example to refer to specific evidence.

3. This COI is limited in subject matter to 'Project 13'[1] and a consideration of whether the First COI Recommendations are sufficient to address matters raised in materials relating to Project 13. This includes the implementation of such Recommendations by FSQ. The time frame for this COI, six weeks, is short bearing in mind the time taken to convene a team including counsel assisting; issue notices for, and receive, documents and answers to questions from numerous parties; obtain statements of evidence;

[1] 'Project 13' is explained in greater depth at [13] below.

conduct public hearings; and provide a report. The allowed time from beginning to end reinforces the confined scope of this COI. This necessarily limits the range of evidence and amount of documentation that can be investigated, especially where evidence has no bearing of sufficient relevance to the subject matter of the Terms of Reference.

4. This means that the investigation is directed to the matters in the Project 13 Report and the consequences of Project 13 with respect to relevant Recommendations of the First COI. Those Recommendations are directed to FSQ.

5. The time over which the method the subject of Project 13 was implemented was between 29 October 2007 and 21 November 2016, though as is noted below, there was a period between 28 July 2008 and 20 August 2009 where use of this method was suspended.

6. Dr Kirsty Wright was retained as an independent expert to this COI and I have been assisted by her statements. The substance of many of the opinions expressed in those statements, given to this COI in that expert capacity, were also made in public statements by Dr Wright, which preceded the appointment of this COI. Dr Wright's investigations have highlighted the problems in Project 13 and the Project 13 Report. I have also been assisted by the expert evidence of Dr Linzi Wilson-Wilde, Dr Bruce Budowle and Ms Johanna Veth, to which I refer below.

7. I have also been assisted by the submissions from parties represented before the COI.

8. Although the time period for the COI has been confined, a large volume of material and evidence has been presented. Since commencement on 5 October 2023, the COI has received an extremely large number of documents from Government agencies, individual parties, and the manufacturer of the MultiProbe Device used by the QHFSS Laboratory. Documents were produced by these parties in response to 39 Notices to Produce. Recipients were given extremely short timeframes in which to respond, often less than 24 hours. The largest number of documents was received from Queensland Health.

9. A total of 13,775 documents were received from all parties which can be broken down into the following categories: 2,780 emails; 1,902 minutes of meetings; 603 PowerPoint presentations; 112 reports; 988 spreadsheets; and 7,390 general documents.

10. A total of 39 witness statements were received, which comprised 3,476 pages of information.

11. The COI held public hearings in Brisbane from Monday 31 October 2023 to Friday 3 November 2023. Ten witnesses gave oral evidence at the hearings (see **Appendix C** and Section D at paragraphs [53]-[67] below) and 12 parties (some represented jointly) were granted leave to appear, which allowed them to participate in the hearings by questioning witnesses and making oral and written submissions. A list of parties is at **Appendix D**. Hearings were livestreamed and witness lists, exhibits and transcripts were made available on the COI's website.

12. It will be appreciated that given its short timeframe, the COI has relied heavily on the parties to identify relevant documents from this material.

13. The focus of the COI has been on Project 13. Project 13 is the name which has been used throughout the COI to describe the introduction on 29 October 2007[2] at the QHFSS Laboratory (as it was then known) of a fully automated DNA extraction system (being the Automated DNA IQ Method) using the MultiProbe Device and the Promega DNA IQ™ extraction kit (**DNA IQ Kit**). It is convenient here to observe that, '*out-of-the-box*', the DNA IQ Kit constitutes a manual method for extracting DNA. It may be modified in various respects to suit the particular requirements of the laboratory in which it is being used (*e.g.* a laboratory might modify the lysis temperature to suit the substrates the subject of analysis). The DNA IQ Kit was, at that time, also known to be suitable for use in an automated DNA extraction process, and was being used in such a process by at least three other laboratories (so far as the QHFSS Laboratory was aware) – PathWest (Western Australia), Forensic Science South Australia, and the Centre of Forensic Sciences, Toronto, Ontario (**CFS**).[3] At that time in the QHFSS Laboratory there was a significant backlog of samples which needed testing.

14. Since the delivery of the First COI Report on 13 December 2022, a number of concerns have been raised by Dr Wright who was also an expert witness for the First COI. Those concerns received a degree of media attention, conveniently assembled in two podcasts by journalists from *The Australian*, being episodes 10 and 11 of the '*Shandee's Legacy*' podcast series. There are other media references to these concerns which I have taken into account, but it is these two podcast episodes which identify the central issues of concern as raised by Dr Wright in the media.

15. Dr Wright's concerns extend to Dr Wilson-Wilde in her capacity as an expert witness for the First COI, to the actions of Dr Wilson-Wilde as CEO of FSQ and to the oversight of FSQ by the interim FSQ Advisory Board that has been set up to, *inter alia*, oversee the implementation of the First COI Recommendations.

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[2] Confirmed in the statement provided to the First COI by Mr Thomas Edmund Kersey Nurthen dated 14 September 2022 at p 5 [20] (First COI, Exhibit 129.4); see also Exhibit EXP.010.001.0001, *Final Report: Commission of Inquiry into Forensic DNA Testing in Queensland* dated 13 December 2022 at pp 353-354 [1108] and [1115] (**First COI Report**).

[3] See Exhibit FSS.0001.0084.1444, *Project 13. Report on the Verification of an Automated DNA IQ ™ Protocol using the MultiPROBE ® II PLUS HT EX with Gripper™ Integration Platform* (August 2008) at p 1 (**Project 13 Report**).

16. Dr Wright's concerns ultimately emanate from the Project 13 Report, a document which was produced in the First COI, but which was not fully addressed as part of the work of the First COI. She became aware of this document after the First COI Report was delivered. The named authors of the Project 13 Report were seven scientists at the QHFSS Laboratory (**Project 13 Scientists**). Notably, the date of the Project 13 Report is ten months after the Automated DNA IQ Method was introduced in the QHFSS Laboratory. Dr Wright noted that the main conclusion in the Project 13 Report, namely that the automated system was '*comparable'* to a manual method of DNA extraction, was not supported by, and was inconsistent with, the data and figures contained in the body of the Project 13 Report. She considered that the data in the Project 13 Report revealed that the Automated DNA IQ Method was systematically failing and recovered far less DNA than the manual method. She noted that, despite this, the Project 13 Report contained a recommendation that the automated system be implemented.

17. ***Concerns raised by Dr Wright regarding 'Project 13'***: Having considered the Project 13 Report, Dr Wright's opinion was that: *(i)* the Project 13 Scientists, at least, must have known that they recommended the implementation of a failed DNA recovery method; *(ii)* the Project 13 Scientists recommended such a method where its sole purpose was to extract DNA for analysis in connection with the prosecution of matters in Queensland's criminal justice system; *(iii)* in those circumstances, the Project 13 Scientists recommended a DNA extraction method that was likely to compromise prosecutions for serious crimes, including rape and murder; and *(iv)* the QHFSS Laboratory deliberately favoured the exigency of clearing backlogs over sound scientific method with '*catastrophic*' consequences. It is also Dr Wright's opinion that those responsible for the implementation of the Automated DNA IQ Method ought to be held accountable, to restore faith in Queensland's criminal justice forensic science capabilities.

18. ***Issues raised by Dr Wright concerning Dr Wilson-Wilde***: Dr Wright raised an additional, but separate, issue concerning Project 13. The issue concerns the evidence of Dr Wilson-Wilde, who was also an expert witness in the First COI. Dr Wilson-Wilde was appointed the CEO of FSQ on 16 January 2023, after the presentation of the First COI Report. Dr Wilson-Wilde gave several expert reports which were tendered in the First COI.[4] She also gave oral evidence at the First COI. It is her report of 20 October 2022[5] which is the subject of issues raised by Dr Wright. That report was tendered as part of Module 4

[4] E.g. Professor Linzi Wilson-Wilde OAM PhD, *Report as to the appropriateness of process by which scientists are not performing micro-concentration* dated 7 August 2022 (First COI, Exhibit 27; and see First COI Report at p 58 [234]); Professor Linzi Wilson-Wilde OAM PhD, *Report into the QHFSS Options Paper* dated 20 September 2022 (First COI, Exhibit 26; and see First COI Report at p 259 [807]); Report of Professor Linzi Wilson-Wilde OAM PhD, *Report into Rayon swabs and ethanol* dated 18 November 2022 (First COI, Exhibit 225; and see First COI Report at p 191 [620]); Professor Linzi Wilson-Wilde OAM PhD, *Report on QHFSS DNA profile generation success rates* dated 24 November 2022 (First COI, Exhibit 225b; and see First COI Report at p 102 [345]: '*I engaged Professor Linzi Wilson-Wilde to undertake a review of the testing and results data provided by Queensland Health for the previous 5 years*'); Exhibit QHC.2000.0012.0591, Professor Linzi Wilson-Wilde OAM PhD, *Expert report* dated 20 October 2022 (First COI, Exhibit 129.5; and see First COI Report at p 353 [1111]) (**Dr Wilson-Wilde 20 October 2022 Report**).

[5] Dr Wilson-Wilde 20 October 2022 Report (and see First COI Report at p 353 [1111]).

in the hearings of the First COI and was dealt with in Chapter 5, '*Technical Issues at the Laboratory and their resolution*', of the First COI Report – but she did not give oral evidence as to this report at the First COI. For the purposes of the 20 October 2022 report, she was given a series of questions and also a large number of documents to review. Among those documents was the Project 13 Report. In providing the 20 October 2022 report, Dr Wilson-Wilde drew attention to the fact that the verification of the Automated DNA IQ Method was not consistent with expected good practice. She did not, however, draw attention to the low DNA yield obtained by the process being tested in the Project 13 Report, or to the fact that the Project 13 Report's main conclusion was inconsistent with the data contained within it.

19. The question which Dr Wright has raised in statements reported in the media is why Dr Wilson-Wilde did not draw attention to those matters in answering the questions posed. In Dr Wright's opinion: *(i)* Dr Wilson-Wilde failed to draw the significance of Project 13 to the attention of the First COI either adequately or at all; *(ii)* Dr Wilson-Wilde failed to do so when it ought to have been immediately apparent to her that the automated method was failing to adequately extract DNA, and when Dr Wilson-Wilde has subsequently claimed publicly that this was, in fact, apparent to her; *(iii)* Dr Wilson-Wilde has failed to adequately explain why she did not draw the failings of the automated method to the attention of the First COI; and *(iv)* Dr Wilson-Wilde may have deliberately misled the First COI.

20. Recent statements by Dr Wilson-Wilde[6] after the publication of the First COI Report could be considered relevant to the present COI since: *(i)* Dr Wright's statements assert a lack of integrity on the part of Dr Wilson-Wilde in her handling of the Project 13 Report before the First COI, thus calling into question her integrity in implementing the First COI Recommendations, especially Recommendation 105; and *(ii)* Dr Wright's statements also call for consideration whether Recommendation 105 ought to be varied or strengthened to restore public confidence in FSQ.

21. ***Interim FSQ Advisory Board***: Finally, Dr Wright has made public statements about her concerns as to whether the interim FSQ Advisory Board (established in May 2023) can manage conflicts of interest. It is not clear on the face of those statements how they might fall within the Terms of Reference. It may be that those statements, insofar as they relate to Project 13, reflect on the capacity of Dr Wilson-Wilde and FSQ to implement the First COI Recommendations and those of this COI. In any event, Dr Wright confirmed in her oral evidence that she does not seek to agitate her concerns in this forum.[7]

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[6] See the three transcripts of interviews conducted of Dr Wilson-Wilde by journalists from *The Australian* on 31 August 2023 and 8 September 2023: Exhibits LAY.010.042.0001, LAY.010.043.0001 and LAY.010.044.0001.
[7] COI Hearings, Day 3 (TRA.500.003.0001): T267.46-T268.3.

C. OUTLINE OF RELEVANT MATTERS FROM THE FIRST COI REPORT

22. ***Overview***: The First COI was given a broad remit to examine '*methods, systems and processes*' in use by the Queensland Police Service (**QPS**) and QHFSS for '*collection, testing and analysis*' of DNA, whether these were '*reliable, conducted in accordance with best international practice*' and resulted in '*accurate reporting of the presence of DNA in samples submitted for testing and accurate matching of DNA samples*', as well as the reasons for any failures in this regard.[8]

23. The First COI conducted seven 'modules' of hearings and structured the First COI Report around the following broad issues:
    (a) the current operations of the QHFSS Laboratory;
    (b) the collection of biological material for forensic DNA testing;
    (c) testing thresholds and the 'Options Paper';
    (d) technical issues at the QHFSS Laboratory and their resolution (including the MultiProbe Device and the DNA contamination event);
    (e) DNA evidence in the Shandee Blackburn case;
    (f) Laboratory culture;
    (g) engagement with stakeholders (including the QPS, Office of the Director of Public Prosecutions (**ODPP**) and Courts); and
    (h) Governance and future of the QHFSS Laboratory.

24. Among these general topics, the First COI examined many specific issues, incidents and practices in the QHFSS Laboratory and referenced events as far back as 2005. It found deficiencies in laboratory management such that the governance structure of the QHFSS Laboratory was unsuitable,[9] ultimately recommending, *inter alia*, that it be reconstituted.[10]

25. The First COI Report described and characterised many of the procedures, and failings, in the QHFSS Laboratory. Many of those descriptions apply to the approach to Project 13. They do not need to be repeated and themselves formed the basis of Recommendations that are currently being implemented and will apply to the outcome of this COI. In particular, the First COI Report described matters such as an absence of overall case management and a culture whereby scientists were unwilling or unable to

[8] *Commissions of Inquiry Order (No.3) 2022*.
[9] See First COI Report at p 2 [44], pp 149-165 [483]-[547] and pp 495-502 [1620]-[1647].
[10] See First COI Report at p 500 [1644] (Recommendation 121).

raise quality issues.[11] It also dealt with matters of organisational structure, management, audit and assurance.[12]

26. ***Laboratory culture***: I note that the First COI Report concluded[13] that there were few cases in which there was overall case management from collection to reporting, and that only the staff in the team relevant to the task had oversight of the sample at that point, either evidence recovery, analytical or reporting.[14] From October 2007, there were significant restrictions on the ability of the scientists to manage a case holistically.[15]

27. Relevant to this COI, the First COI Report observed that the QHFSS Laboratory management's attention had become fixed, since 2005, upon backlogs of work and delays in reporting results, with the backlog at that time being reported in the media as having grown to 13,995 samples.[16] The First COI Report observed that the QHFSS Laboratory's '*operational model and workflow… was designed and implemented to address large backlogs in samples to be processed. The idea was to maximise efficiency and minimize turn around times for sample analysis for the QPS. This approach infected all aspects of management of the laboratory*.'[17]

28. By way of background to the issue of reduction in the backlog of samples awaiting testing and the implementation of automation in the QHFSS Laboratory, in October 2005 a Ministerial Taskforce for Forensic and Scientific Services within Queensland Health had produced the *Report on the Role and Function of Forensic and Scientific Services in the Queensland Government* (**the 2005 Report**).[18] That 2005 Report observed that QHFSS:
    (a) did not have well developed corporate governance arrangements;[19]
    (b) did not, based on then-current processes and technologies, have sufficient resources to deal with incoming DNA profiling work;[20] and
    (c) had an increasing backlog of DNA samples without a clear strategy for dealing with it and did not have reliable estimates on the number of crime scene samples in the backlog of 'Volume Crime' or 'Major Crime' samples that needed to be processed.[21]

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11 First COI Report at p 131 [427].
12 First COI Report at p 159, section 2.8, [483]-[547].
13 First COI Report at p 37 [179].
14 First COI Report at p 39 [184].
15 First COI Report at p 39 [185] and [194].
16 See First COI Report at pp 12-13 [89]-[90].
17 See First COI Report at p 151 [492].
18 Exhibit QHC.2000.0012.7182, *Report on the Role and Function of Forensic and Scientific Services* dated October 2005 (**2005 Report**).
19 2005 Report at p 1.
20 2005 Report at p 2.
21 2005 Report at p 2.

29. The 2005 Report further observed that QHFSS:[22]

(a) had a hierarchical structure that was inflexible and reinforced the status quo;

(b) was siloed in its service delivery;

(c) had '*little cross fertilization of skills and experience …, multiskilling or freedom to move staff and skills to match shifting work priorities and demands*'; and

(d) had overlapping leadership roles which blurred accountabilities and responsibilities.

30. The First COI Report also documented the poor workplace culture existing at the QHFSS Laboratory over many years, finding that there was '*ample evidence to suggest that the culture at the laboratory has not, for many years, facilitated best scientific practice. Cultural issues have had a negative impact on the scientific processes used and the results obtained*.'[23]

31. Some specific findings of the First COI Report concerning the culture at the QHFSS Laboratory were:

(a) scientists were ignored or deterred from raising issues, including by professional exclusion and fear of reprisal;[24]

(b) the existence of 'factions' within the QHFSS Laboratory;[25]

(c) lack of a formal and appropriate process for staff to raise scientific concerns or procedures for such concerns to be dealt with by QHFSS management or Queensland Health;[26] and

(d) a culture of control over QHFSS Laboratory staff by Ms Catherine Allen, who became Managing Scientist at QHFSS in about July 2007 and remained in that position up to and including the period of the First COI.[27]

32. Nevertheless, in the First COI Report, it was observed that: '*the scientists who work at the DNA laboratory are, on the whole, first-class professionals. They are people of the utmost skill, dedication and integrity*'.[28] The culture and organisation of the QHFSS Laboratory, as described in that Report, may have failed to ensure that the work done by those scientists was done in a way to maximise the reliability of evidence obtained in the QHFSS Laboratory.[29]

33. I see no reason to disagree with that observation having regard to the evidence given in the present COI.

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22 2005 Report at pp 20 and 27.
23 See First COI Report at p 442 [1443].
24 See First COI Report at p 443 [1446], p 444 [1449], p 446 [1457] and p 449 [1469].
25 See First COI Report at p 444 [1451].
26 See First COI Report at p 447 [1462]-[1463].
27 See First COI Report at pp 454-463 [1493]-[1525].
28 First COI Report at p 1 [42].
29 First COI Report at p 1-2 [43].

34. ***Backlog of samples for testing***: It is worth repeating some of the observations made in the First COI Report, and similar observations arise from the evidence before this COI:

(a) there was a concern to deal with the backlog of samples awaiting testing which led to incomplete validation before implementation of new methods;

(b) the number of cases actually affected, and whether different processes would have resulted in different outcomes, cannot presently be quantified.[30] This does not preclude steps being taken, within best practice guidelines, to determine cases for re-testing.

35. To address the backlog issue, the Queensland Government had in the 2004/5 financial year allocated $5 million to Queensland Health. Importantly, $500,000 was devoted to the acquisition of automation equipment,[31] with the 2005 Report observing that automation technology in other jurisdictions had led to 'significant efficiencies', including increases in output and reductions in staff.

36. The 2005 Report acknowledged that effects on operations would not immediately follow from the purchase of automation equipment due to the time needed to validate instruments, change laboratory practices and train staff. Noting this, however, the 2005 Report stated that while a validation could take up to 12 months if begun from scratch, this could be shortened to four to six weeks by relying on validation experience from other jurisdictions.[32] The 2005 Report then set out Recommendation 8, which was:

'*It is recommended that the Chief Executive Officer of the Institute ensures that when validating future equipment the validation work undertaken by other jurisdictions to introduce equipment and/or automation processes is utilized to minimize validation time whilst maintaining scientific accountability and integrity by* ***31 October 2005***.' (bolding in original)

37. Of the Project 13 Scientists who gave oral evidence in this COI, only two spoke to this Recommendation:

(a) Mr Thomas Nurthen believed Recommendation 8 had played a role in how the Automated DNA IQ Method was validated as regard had been had to protocols from other laboratories, such as from Western Australia;[33]

(b) Ms Vanessa Ientile believed she may have been required to report against the recommendations in the 2005 Report, but the timeframe in the 2005 Report for Recommendation 8 was not considered by her at the time of Project 13.[34]

38. ***Validation***: The First COI Report also considered validation of several processes being used in the QHFSS Laboratory. It is fair to conclude that Project 13 was not the only process introduced or practised

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30 First COI Report at p xii [33].
31 2005 Report at p 34.
32 2005 Report at p 37.
33 COI Hearings, Day 4 (TRA.500.004.0001): T313.15-20.
34 COI Hearings, Day 4 (TRA.500.004.0001): T314.14-25.

in the QHFSS Laboratory that had not been properly validated. Of note, the First COI Report considered[35] the elution volume used for DNA extraction using the Automated DNA IQ Method for use in the Maxwell® 16 (a different liquid handling device to the MultiProbe Device). Two changes had been made to the procedure, which included increasing the elution volume to 100ul. As Dr Budowle concluded,[36] this was poor experimental design and the introduction of two variables at the same time constituted a basic scientific error and indicated that the validation study was not sufficient to support the outcome of that elution volume. Where a decision was then made not to test samples with a low concentration of DNA, this meant that there was a potential loss of evidence by reason of the more dilute concentration with the higher elution volume. This gave rise to Recommendation 20 in the First COI Report.

39. Several Recommendations in the First COI Report concerned the need to re-visit the validation of certain operating procedures. It would also seem from that report that other consequences flowed from an apparent lack of procedure to require negative controls to undergo the same testing as the corresponding case sample at the same time, unless the sample had been exhausted (Recommendation 26).

40. ***Contamination event***: Also relevant to this COI, a contamination event involving samples processed using the Automated DNA IQ Method was dealt with in some detail by the First COI Report. Contamination of a DNA sample was first detected on 11 February 2008, with reports of subsequent contamination events occurring on 23 April 2008, 12 May 2008 and 14 June 2008.[37]

41. By July 2008, the QHFSS Management Team was aware that there was a systemic issue with contamination, holding an extraordinary Management Team meeting on 14 July 2008. QHFSS, as noted in First COI Report, took various steps to address the contamination issue, including:[38]
    (a) laboratory-wide notification of contamination events and of interim measures being implemented, and engagement with Queensland Health, QPS and ODPP;
    (b) conduct of internal audits (Audit 8227 and Audit 8572) to determine the source of contamination and to identify contaminated batches of extractions and engagement of external scientists to review extraction procedures at the laboratory; and
    (c) suspension of the Automated DNA IQ Method and a return to manual DNA extraction using, primarily, the former Chelex system from 28 July 2008 until 20 August 2009.

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[35] First COI Report at p 66 [256]ff.
[36] See Dr Bruce Budowle, *Review and Assessment of the Appropriateness of Not Concentrating Low Quantity DNA Samples by Queensland Health Forensic and Scientific Services (QHFSS)* dated 15 September 2022 (First COI, Exhibit 31) at p 7 [14]; First COI Transcript of Hearing (30 September 2022): T590.29-T592.37.
[37] See First COI Report at p 320 [1117].
[38] See First COI Report at pp 322-326 [1122]-[1135].

42. Dr Wilson-Wilde is said by the First COI to have been procured to consider whether the methods before and after that contamination event were in accordance with best practice. It is worth reproducing what the First COI Report said at paragraph [1136]–[1138] (*footnotes omitted, emphasis added*):

> *[1136] Professor Wilson-Wilde considered that the use of the DNA IQ extraction methods and the implementation of those methods were not outside what would be considered good practice for a forensic DNA laboratory in* ***2008.***
>
> ***[1137] However, based upon the report of Dr Sloots and Whiley, Professor Linzi Wilson-Wilde found that the application of the method in an automated protocol may not have been sufficiently validated when originally implemented****. Professor Wilson-Wilde noted the laboratory's commentary in its project report stated that, unlike other laboratories, the laboratory did not validate the automated DNA IQ protocol which came pre-loaded with the MPII, but, instead, validated a manual protocol and then verified an automated protocol based on the validated manual method.*
>
> *[1138]* ***Professor Wilson-Wilde concluded that the verification was inadequate, rendering the laboratory's use of the automated DNA IQ method in 2008 inconsistent with best practice.*** *First, a contamination check, which resulted in one batch being failed for the presence of an unidentified profile during the verification, was not fully investigated. Second, the volumes used for extraction were three times the amount used in the manufacturers protocol, and had not been sufficiently tested in the verification. These significantly higher volumes used in the initial automated method may have contributed to the occurrence of the contamination events*.

43. The First COI considered and referenced Dr Wilson-Wilde's 20 October 2022 report,[39] which observed that:

    (a) the Automated DNA IQ Method had not been sufficiently validated when implemented, rendering use of that method in 2008 inconsistent with best practice as well as identifying various issues with environmental monitoring, training and audit detail;[40]

    (b) the investigation into the contamination issue was consistent with best practice;[41]

    (c) research by QHFSS into the cause of the contamination was '*extremely thorough*';[42] and

[39] See Dr Wilson-Wilde 20 October 2022 Report.
[40] See First COI Report at pp 359-361 [1137]-[1142].
[41] See First COI Report at p 360 [1141].
[42] See First COI Report at p 361 [1143].

(d) QHFSS '*went through an appropriate process*' to identify which results were compromised and which were reliable.[43]

44. Relevantly, the First COI Report observed that Dr Wilson-Wilde had concluded that the results ultimately relied upon by QPS and the Courts in this period could be considered reliable and accurate, and that she '*did not find any significant failings that would indicate that the final results released were not reliable*'.[44]

45. The First COI Report noted that the QHFSS Laboratory's response to the contamination issue was generally in accordance with best practice.[45]

46. ***Examination of samples in the Shandee Blackburn case***: The First COI Report also noted an issue detected with the MultiProbe Device in 2012 and 2013, in the context of its examination of the Shandee Blackburn case. Together with Dr Wright,[46] Dr Budowle and Ms Veth were engaged by the First COI to review the samples in the Shandee Blackburn case. Dr Budowle, Ms Veth and Dr Wright identified that quantitation results for positive controls obtained from DNA extractions using the MultiProbe Device were much lower than those from batches processed on the Maxwell® 16, suggesting that DNA had not been recovered optimally using the MultiProbe Device.[47] The cause of this could not be determined at the time.

47. The following ought to be noted from the joint report of Dr Budowle and Ms Veth dated 23 November 2022, in relation to the Automated DNA IQ Method using the MultiProbe Device:[48]

> *41. Another possible explanation for the poor recovery of DNA from some of the Blackburn samples was discovered through a review of the extraction positive control quantification data. Further investigation of the positive control data revealed an anomaly between the quantification results obtained from extractions undertaken on the MultiProbe® II platform compared to those obtained from batches processed on the Maxwell® platform. The MultiProbe® II platform extraction positive controls had much lower quantification results than the Maxwell® extracted positive controls. This difference suggests that DNA was not being recovered effectively from the MultiProbe® II batches. Due to time constraints, this matter could not be investigated further and there may be other reasons for the lower positive control quantification results. However, this is a compelling indication that there*

[43] See First COI Report at p 361 [1145].
[44] See First COI Report at p 361 [1145].
[45] First COI Report at p 353 [1112].
[46] Dr Kirsty Wright, *Review of Blackburn Analysis*, undated (First COI, Exhibit 220) and Dr Kirsty Wright, *Addendum Report: Review of Blackburn DNA Analysis* dated 18 November 2022 (First COI, Exhibit 221).
[47] See First COI Report at p 363 [1152].
[48] Report of Dr Bruce Budowle and Ms Johanna Veth, *Review of DNA Analysis Undertaken in the Blackburn case* dated 23 November 2022 (First COI, Exhibit 218).

was something about the MultiProbe® II extraction method that was resulting in a lower recovery of DNA when compared to the Maxwell® method…

44. If the MultiProbe® II extraction method was performing sub-optimally then this is particularly problematic for samples that likely had low DNA template to begin with. These include the samples from Ms Blackburn's fingernails, the samples from the vehicle that had been described as bloodstained and the samples from a knife. Furthermore, there are obvious consequences for samples from other cases that were processed in these batches.

45. It is strongly recommended that the laboratory review the results from their MultiProbe® II extraction batches to determine if there indeed was a problem with this method or with something specific to the way these particular extractions were conducted, resulting in poor DNA recovery. Investigations are required to determine how many batches were affected and how this has affected the reporting of results from those batches.

46. In this section a number of explanations have been proposed to explain why there was poor DNA recovery from several samples in the Blackburn case. These include factors such as degradation (specifically in relation to the S series of samples), inhibition (in relation to the bloodstained samples from Ms Blackburn's shirt) and indication that the MultiProbe® II extraction method was performing sub-optimally when compared to the Maxwell® method. It is possible that a combination of these factors were in play. It is imperative that the performance of the MultiProbe® II extractions is investigated further given the wider implications.

48. The First COI Report discussed the MultiProbe Device (at paragraph [1146]-[1159], *footnotes omitted, emphasis added*):

[1146] Dr Bruce Budowle and Ms Johanna Veth were retained by the Commission to conduct a review of the DNA casefile relating to the Shandee Blackburn homicide (Blackburn case) and related validations and quality incidents. Their conclusions in relation to the case are contained in Chapter 6, DNA evidence in the Shandee Blackburn case.

[1147] During their review, Dr Budowle and Ms Veth considered the quantitation data for some of the extraction positive controls which were processed in the same extraction batches as crime scene samples in the Blackburn case. A positive control is a sample containing

a known quantity of DNA to be profiled and is processed with extraction batches to confirm that the extraction worked. If a positive control has a low quantitation value or does not produce a DNA profile, it suggests that there has been some problem in the processing of the batch. The data showed that some of the positive controls had low quantitation results. Upon receiving the data, Ms Veth suspected there might have been an issue with the extraction of DNA from batches that were processed containing the Blackburn case samples.

[1148] *Ms Veth explained that the data showed the positive control for some batches processed on one instrument consistently had lower quantitation results than the positive controls in batches that were processed by a different system. The difference in results caused Dr Budowle and Ms Veth to request further data (2012-2013) to assess whether what was observed in the Blackburn case samples was reflected over a longer period.*

[1149] *From the data received, Dr Budowle, Ms Veth and Dr Kirsty Wright identified an anomaly between the quantitation results for positive controls obtained from extractions completed on the MultiProbe® II instrument compared to the results obtained from batches processed on the Maxwell® instrument.*

[1150] *The MultiProbe® II and the Maxwell® are automated instruments that were used by the laboratory for DNA extraction from samples such as blood swabs, tapelifts, whole items and tissue. Each instrument requires some manual steps to be performed before samples are loaded on a plate for processing by the instrument.*

[1151] *This issue was identified during the later stages of the experts' engagement. Ms Veth stated that in the time available they were unable to determine what was causing the differences in results – and whether the issue related to the manual pre-processing step before use of the automated instrument, the combination of reagents used, a particular step in the process or the instruments themselves.*

[1152] *The data set showed that positive controls extracted from the MultiProbe® II instrument had much lower quantitation results than the positive controls extracted from the Maxwell® instrument.* ***This suggests that DNA was not being recovered optimally using the MultiProbe® II extraction method****. In comparison, trace samples processed using the Maxwell® instrument resulted in effective DNA recovery.*

[1153] ***The sub-optimal performance of the MultiProbe® II extraction method would be particularly significant for samples that have a low DNA template to begin with. If the small amount of DNA available in those samples was not extracted the sample may fall below the processing thresholds (for example "No DNA") and not be tested further***.

[1154] *Ms Veth stated this finding was significant for the Blackburn case as some samples which had not returned DNA profiles and were the subject of public scrutiny were extracted from batches using the MultiProbe® II instrument. These samples, which likely had a low DNA template to begin with, included samples from Ms Blackburn's fingernails, the vehicle that had been described as containing bloodstains, and from a knife. A table in their report lists all the samples in the Blackburn case that were subject to extraction batches using the MultiProbe® II instrument.*

[1155] ***The discrepancy over the two year data set also has implications for samples from other cases that were processed and extracted in the same batches as the Blackburn case samples or generally processed using the MultiProbe® II instrument***. *If the extraction of DNA in those batches was sub-optimal that may have affected the evidence able to be obtained by the laboratory and used by the QPS and courts.*

[1156] *The laboratory did not identify this issue in 2012/2013. Dr Budowle explained that it could have been picked up had the laboratory been monitoring positive control quantitation data. Ms Veth said that at the New Zealand ESR laboratory a report is prepared for each case which lists quantitation results for all controls so that anomalies can be detected.*

[1157] *By failing to monitor quantitation data, the laboratory lost an opportunity to identify the difference in results between the MultiProbe® II and Maxwell® extraction methods.*

[1158] *Dr Budowle, Ms Veth and Dr Wright strongly recommended the laboratory review the results from their extractions to determine if there was a problem with the method, or something specific to the way these particular extractions were conducted, resulting in poor DNA recovery. They considered such an investigation would need to consider a number of factors including whether the method itself was sub-optimal; whether there*

was an issue with a particular reagent that affected a number of batches processed during an identified time period; or whether the issue be confined to a particular technician.

[1159] Ms Veth agreed in her evidence the investigation should involve considering the quantitation data of positive controls over a longer period of time to see the potential scope or extent of the low performing quantitation results being derived. Dr Budowle said once the scope of the problem had been identified, the laboratory could consider which specific cases might be reviewed or re-tested.

49. ***Recommendation 105***: The above constitutes the relevant background which led to Recommendation 105 of the First COI Report, which is in the following terms:

The laboratory should conduct a retrospective review of positive control extraction batches processed by the MultiProbe® II instrument to determine if this extraction method was performing sub-optimally, and if so, the period of time in which a sub-optimal method was used and whether there is utility in re-testing or re-analysing any potentially affected samples.

50. Thus, it can be seen that an issue, or potential issue, with DNA extractions using the MultiProbe Device had been recognised, but that the nature of that issue was not discussed within the scope and timeframe of the First COI. While it can be said that, broadly read and in context, Recommendation 105 covers the consequences of conclusions expressed in this COI, the evidence (discussed further below) now indicates that greater specificity may assist to ensure that the appropriate work is undertaken with respect to samples extracted by the Automated DNA IQ Method, whether wholly automated or partly manual, and processed on the MultiProbe Device.

51. Regardless of the role that the 2005 Report played in relation to Project 13, the observations made then about many of the QHFSS Laboratory's issues still seemed to apply by the time of the First COI.

52. In Recommendations 13 and 14, the First COI Report set out the principles to apply in determining and prioritising cases for review.

D. ORAL EVIDENCE AT THE HEARING

53. The oral evidence at the hearing was confined to expert evidence. The expert evidence was given in concurrent sessions at the hearing by two groups of witnesses (these are known more colloquially as expert 'hot tubs'). This method of dealing with expert evidence is routinely used in the Courts. The first expert hot tub comprised scientists from the QHFSS Laboratory (at the time the automated DNA extraction system was introduced), namely, Mr Thomas Nurthen, Dr Vojtech Hlinka, Ms Vanessa Ientile, Mr Firman ('Iman') Muharam, Ms Breanna Gallagher and Mr Allan McNevin. Mr Nurthen, Dr Hlinka, Ms Ientile, Mr Muharam and Ms Gallagher are some of the Project 13 Scientists.

54. The purpose of the first expert hot tub was to address the circumstances in which the automated DNA extraction system using the MultiProbe Device came to be introduced by the QHFSS Laboratory in October 2007, and its subsequent use during the period to 21 November 2016. Some of the members of the first hot tub (being Ms Ientile, Mr Nurthen and Mr McNevin) participated in a short resumption of the first hot tub on 2 November 2023 so as to address a selection of emails which had been produced in a statement by Ms Amanda Reeves dated 1 November 2023.[49]

55. Ms Ientile was the Managing Scientist at the QHFSS Laboratory from 2004 to July 2008 when she ceased to work as a forensic scientist. She gave two statements to the COI.[50]

56. Mr Nurthen held the position of Senior Scientist, Automation and Laboratory Information Systems (**LIMS**) Implementation Project from June 2006 to June 2008, having held the role of Scientist, Forensic Biology from September 2004 to June 2006. From October 2008 to 2012 he was the Senior Scientist Quality & Projects. Since 2012 he has been a Reporting Scientist in the Forensic Biology Division. He gave three statements to the COI.[51]

57. Dr Hlinka was a Forensic Scientist at the QHFSS Laboratory from May 2004 to May 2013. From 2004 to 2006 he was Scientist Forensic Biology, Project Leader of the DNA Processing Improvement Project, and was also from 2006 to 2008 a member of the Automation Project Group. He gave one statement to the COI.[52]

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[49] Exhibit LAY.010.039.0001, Statement of Amanda Jane Reeves dated 1 November 2023 (**Second Reeves Statement**).

[50] See Exhibit LAY.010.012.0001, Statement of Ms Vanessa Kate Ientile dated 24 October 2023 (**First Ientile Statement**) and Exhibit LAY.010.026.0001, Statement of Ms Vanessa Kate Ientile dated 26 October 2023.

[51] See Exhibit LAY.010.011.0001, Statement of Mr Thomas Edmund Kersey Nurthen dated 25 October 2023 (**First Nurthen Statement**), Exhibit LAY.010.022.0001, Statement of Mr Thomas Edmund Kersey Nurthen dated 27 October 2023 (**Second Nurthen Statement**) and Exhibit LAY.010.041.0001, Statement of Mr Thomas Edmund Kersey Nurthen dated 1 November 2023.

[52] See Exhibit LAY.010.013.0001, Statement of Dr Vojtech Hlinka dated 24 October 2023 (**Dr Hlinka Statement**).

58. Mr Muharam was a Scientist, Forensic Biology Analytical Team from September 2004 to January 2009. He gave two statements to the COI.[53]

59. Ms Gallagher was an Operational Officer from March 2006 to the end of 2006, and was then, from the end of 2006 to May 2008 a Project Scientist in the Automation/LIMS Implementation Project Team. She gave two statements to the COI.[54]

60. Mr McNevin was a Scientist in the Analytical Team from September 2004 to June 2006, and then a Senior Scientist in that same team from June 2006 to February 2014. He was then a Senior Scientist in the Evidence Recovery Team from February 2014 to October 2021. Since 2021 he has held the positions of Reporting Scientist and Senior Reporting Scientist. He gave two statements to the COI.[55]

61. It is fair to say that, taking into account seniority in the QHFSS Laboratory in 2007, and recollections since that date, Mr Nurthen and Mr McNevin were the scientists who gave the greatest assistance in the first expert hot tub.

62. The second expert hot tub comprised expert witnesses who gave evidence in the First COI, namely, Dr Bruce Budowle, Ms Johanna Veth, Dr Wright and Dr Wilson-Wilde.

63. Dr Budowle is a Visiting Professor in the Department of Forensic Medicine at the University of Helsinki and adjunct faculty in the Radford University Forensic Science Institute. He was engaged by the First COI as an independent expert and provided a number of reports to it. He gave one statement to the COI.[56]

64. Ms Veth is a forensic scientist employed by the Institute of Environmental Science and Research Limited at Mt Albert, Auckland. She was engaged by and provided reports to the First COI as an independent expert. She gave two statements to the COI.[57]

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[53] See Exhibit LAY.010.017.0001, Statement of Mr Firman Alamsyah Muharam dated 27 October 2023 and Exhibit LAY.010.019.0001, Statement of Mr Firman Alamsyah Muharam dated 27 October 2023.
[54] See Exhibit LAY.010.003.0001, Statement of Ms Breanna Lee Gallagher dated 24 October 2023 and Exhibit LAY.010.004.0001, Statement of Ms Breanna Lee Gallagher dated 27 October 2023.
[55] See Exhibit LAY.010.001.0001, Statement of Mr Allan Russell McNevin dated 25 October 2023 and Exhibit LAY.010.038.0001, Statement of Mr Allan Russell McNevin dated 1 November 2023.
[56] See Exhibit LAY.010.030.0001, Statement of Dr Bruce Budowle dated 29 October 2023 (**Dr Budowle Statement**).
[57] See Exhibit LAY.010.027.0001, Statement of Ms Johanna Suze Veth dated 29 October 2023 and Exhibit LAY.010.028.0001, Statement of Ms Johanna Suze Veth dated 30 October 2023.

65. Dr Wright is a Special Reservist with the Royal Australian Air Force, providing expert opinion on human identification based on DNA, and is also contracted by the Australian Defence Force to provide specialist forensic science expert services for capability development and project support. She was engaged as an independent expert witness and provided reports to the First COI. She has provided three statements to the COI which are in evidence.[58]

66. Dr Wilson-Wilde is the CEO of FSQ, being appointed on 16 January 2023. She was previously the Director of Forensic Science South Australia and while in that role was engaged by the First COI as an independent expert and provided a number of reports, including her 20 October 2022 report dealing with contamination.[59] She provided two statements to the COI.[60]

67. The second expert hot tub was convened to provide expert evidence responsive to the witness statements given by the Project 13 Scientists and Mr McNevin as to their recollections of events concerning the introduction, and subsequent use of, the automated DNA extraction system using the MultiProbe Device at the QHFSS Laboratory between 29 October 2007 and 21 November 2016, and also to respond to the oral evidence given in the first expert hot tub on 30 October 2023. Dr Wright and Dr Wilson-Wilde were both present at the hearing when the first expert hot tub was conducted on 30 October 2023. Ms Veth confirmed that she watched the first expert hot tub via video link.[61] Dr Budowle did not watch the first expert hot tub but confirmed that he had read all of the statements given by the Project 13 Scientists and Mr McNevin.[62]

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[58] See Exhibit EXP.010.010.0001, Statement of Dr Kirsty Wright dated 23 October 2023, Exhibit LAY.010.035.0001, Statement of Dr Kirsty Wright dated 23 October 2023 25 October 2023 and Exhibit EXP.010.011.0001, Statement of Dr Kirsty Wright dated 23 October 2023 28 October 2023 (**Third Dr Wright Statement**). Dr Wright also provided to the COI a further statement dated 26 October 2023, however, this was withdrawn and is not in evidence.

[59] Dr Wilson-Wilde 20 October 2022 Report.

[60] See Exhibit LAY.010.029.0001, Statement of Dr Linzi Wilson-Wilde dated 27 October 2023 (**First Dr Wilson-Wilde Statement**) and Exhibit EXP.010.015.0001, Statement of Dr Linzi Wilson-Wilde dated 7 November 2023.

[61] COI Hearings, Day 2 (TRA.500.002.0001): T151.12.

[62] COI Hearings, Day 2 (TRA.500.002.0001): T151.17-20.

E. STATEMENTS GIVEN BY WITNESSES NOT CALLED TO GIVE ORAL EVIDENCE

68. The COI also received statements from deponents who were not required to give oral evidence. Short details of their evidence are set out below.

69. ***Generosa Lundie and Cecilia Iannuzzi***: Ms Lundie worked in the QHFSS Laboratory's Automation Team as a graduate scientist between June 2006 and the end of 2008. By early 2009 she moved to the Analytical Team.[63]

70. Ms Iannuzzi was employed at the QHFSS Laboratory in various positions between 2003 and 2019 and was part of the Automation Team during the period in which the automation project was in progress.[64]

71. Ms Generosa Lundie and Ms Cecilia Iannuzzi are both Project 13 Scientists.

72. They each provided two statements in response to Notices.[65] Each produced documents with their statements, which in the most part repeated documents provided by the other Project 13 Scientists. Both gave generalised evidence about the DNA extraction processes used at the QHFSS Laboratory and had little to no independent recollection of much of the detail with respect to the validation of the DNA IQ manual method or the automated method using the MultiProbe Device.

73. However, both gave clear evidence that they did not contribute to the drafting of the Project 13 Report, and each believed that they were named on the document due to their role in the Automation Team. Each also states that, on their review of the document, the Project 13 Report is a draft.

74. ***Desley Pitcher***: Ms Desley Pitcher is a former employee of PerkinElmer Australia, the manufacturer of the MultiProbe Device.[66] She held a number of roles whilst with that company between 2005 and 2014 where her responsibilities included supporting MultiProbe Device customers.

75. Ms Pitcher describes, *inter alia*, the services offered by PerkinElmer Australia to purchasers of the MultiProbe Device. She states that new purchasers were usually given training to maintain and write protocols for the device. In her experience, it was normal for the manufacturer's engineers and specialists to attend the premises of customers to install, maintain and troubleshoot the MultiProbe Device. She

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63 See Exhibit LAY.010.007.0001, Statement of Generosa Lundie dated 24 October 2023 at [7], [31] (**First Lundie Statement**).
64 See Exhibit LAY.010.005.0001, Statement of Cecilia Iannuzzi dated 24 October 2023 at [10], [69]-[70] (**First Iannuzzi Statement**).
65 See First Lundie Statement (LAY.010.007.0001), Exhibit LAY.010.010.0001, Statement of Generosa Lundie dated 26 October 2023, First Iannuzzi Statement and Exhibit LAY.010.006.0001, Statement of Cecilia Iannuzzi dated 26 October 2023.
66 See Exhibit LAY.010.012.0001, Statement of Desley Jane Pitcher dated 30 October 2023.

identified QHFSS as one such customer, and that QHFSS was among a number of laboratories with which she had direct contact. She visited the QHFSS Laboratory on various occasions between 2006 and 2009. Ms Pitcher recounts from her experience that: *(i)* it was normal for purchasers to modify device settings and still produce valid results; *(ii)* validations of modifications to device settings were the customer's responsibility; and *(iii)* after each visit she made to the QHFSS Laboratory, the system operated without issue.

76. Ms Pitcher recalls only one occasion where issues were experienced by the QHFSS Laboratory with the MultiProbe Device, which were resolved with her support. She notes that on this occasion (which was in October 2008) she observed droplets on the tips (part of the liquid handling steps) which can cause contamination. She says that she made appropriate adjustments and ran several checks to ensure that this issue was fixed. There is nothing in her evidence which identifies any broader concern about how the QHFSS Laboratory was using the MultiProbe Device.

77. ***David Neville***: Acting Superintendent David Neville of the QPS gave evidence in the First COI.[67] He was a member of the Quality Management Section of QPS's Forensic Services Group from 2005 to 2010 and had frequent contact with QHFSS staff.

78. Mr Neville provided two statements dealing with discrete issues.[68] His first statement refers to how and when QPS became aware that the MultiProbe Device had been taken off-line in the QHFSS Laboratory and references statistics provided to QPS by QHFSS showing rates of presumptive blood samples failing to produce a DNA profile. His second statement responds to the oral evidence of Mr Nurthen during the Project 13 Scientists' hot tub on 30 October 2023, regarding an issue about a change in swabs used by QPS to collect DNA. Each of these matters was addressed in the further Project 13 Scientists' hot tub on 2 November 2023.

79. ***Julie Dick SC***: Ms Julie Dick SC is a retired judge of the District Court of Queensland and co-chairs the interim FSQ Advisory Board with Mr Sofronoff. She gave two statements.[69] In her first statement, she notes that the pool of candidates from which to select appropriate scientists to sit on the interim FSQ Advisory Board is relatively small, and affirms that the co-chairs are fully cognisant of, and alive to, potential conflicts which may arise for the Board's members. Ms Dick's evidence is that a conflicts check

[67] See Statements of David Harold Neville dated 26 August 2022, 8 September 2022, 14 September 2022, 2 November 2022 and 14 November (First COI, Exhibits 3, 21, 12, 245.1 and 245.5 respectively) which are referred to throughout the First COI Report (e.g. pp 182-183 [598], p 188 [613] and pp 198-199 [637]).
[68] See Exhibit LAY.010.033.0001, Statement of David Harold Neville dated 31 October 2023 (LAY.010.033.0001) and Exhibit LAY.010.040.0001, Statement of David Harold Neville dated 1 November 2023.
[69] See Exhibit LAY.010.034.0001, Statement of Julie Maree Dick SC dated 31 October 2023 (**First Dick SC Statement**) and Exhibit EXP.010.016.0001, Statement of Julie Maree Dick SC dated 6 November 2023 (**Second Dick SC Statement**).

is the first agenda item at every meeting[70] and that three potential conflicts of interest have been declared to the interim FSQ Advisory Board, but it has not been required at this stage to resolve any declared conflict of interest.[71] Ms Dick otherwise states that she was not involved in the appointment of other interim FSQ Advisory Board members. She also confirms that Dr Wilson-Wilde recommended to the interim FSQ Advisory Board's Forensic Justice Advisory Sub-Committee on 7 September 2023 that all serious cases between October 2007 and July 2008 be re-examined, and that this will be considered by the interim FSQ Advisory Board at its next meeting. It should be noted that Dr Wilson-Wilde subsequently told the COI that she would advocate for a more extensive date range, from the beginning of 2023 back to October 2007.[72]

80. ***Susan Hedge***: Ms Susan Hedge was junior counsel assisting in the First COI and provided two statements.[73] Ms Hedge recounts her recollection of her dealings with Dr Wilson-Wilde concerning the circumstances leading to the production of Dr Wilson-Wilde's 20 October 2022 report. Ms Hedge states that the only conversation she recalls with Dr Wilson-Wilde about the Automated DNA IQ Method using the MultiProbe Device concerned issues of contamination which arose in 2008, and not to any difference in operational effectiveness between the manual and automated DNA extraction methods.

81. Ms Hedge says that if Dr Wilson-Wilde had told her about the significant failings of the methodology and results in the Project 13 Report then she would have ensured they were investigated.

82. ***Amanda Reeves***: Ms Amanda Reeves is an executive advisor to Dr Wilson-Wilde (in her capacity as CEO of FSQ). She provided information to the First COI.[74] She provided two statements to the COI.[75] Her first statement annexes and refers to a number of media articles concerning the Project 13 issue, to which she provides comments. Her second statement responds to a number of oral statements made by several of the Project 13 Scientists in the hot tub on 30 October 2023, and produces a number of emails. These matters were addressed in the (resumed) Project 13 Scientists' hot tub on 2 November 2023, so as to give Ms Ientile, Mr Nurthen and Mr McNevin an opportunity to respond.

83. ***Submission of Brett Scott, Dr Jeremy Watherston and Natasha Mitchell***: Mr Brett Scott, Dr Jeremy Watherston and Ms Natasha Mitchell comprise the senior leadership team at FSQ. They provided a joint

[70] First Dick SC Statement at p 1 [10].
[71] Second Dick SC Statement at p 1 [5].
[72] COI Hearings, Day 3 (TRA.500.003.0001): T262.12-38.
[73] Exhibit LAY.010.031.0001, Statement of Susan Jane Hedge dated 27 October 2023 (**First Hedge Statement**) and Exhibit LAY.010.036.0001, Statement of Susan Jane Hedge dated 1 November 2023 (**Second Hedge Statement**).
[74] See First COI Report at pp v-vi [9].
[75] See Exhibit LAY.010.032.0001, Statement of Amanda Jane Reeves dated 27 October 2023 (**First Reeves Statement**) and Second Reeves Statement.

submission supportive of Dr Wilson-Wilde's handling of the Project 13 issue (i.e. re-testing) and her leadership of the FSQ Laboratory.[76]

84. ***Rhys Parry***: Mr Rhys Parry is a senior scientist at FSQ. He provided a statement[77] annexing a joint letter from himself and five other scientists at the FSQ Laboratory,[78] collectively the whistleblowers from the First COI.[79] The joint letter is supportive of Dr Wilson-Wilde and her leadership of the FSQ Laboratory.

85. ***Hannah Jarman***: Ms Hannah Jarman holds the position of executive advisor to Dr Wilson-Wilde (in her capacity as CEO of FSQ). She gave a short statement recounting examples of Dr Wilson-Wilde's leadership at FSQ, and is supportive of Dr Wilson-Wilde's performance as CEO.[80]

[76] See Exhibit MSC.010.029.0001, Submission to Commission of Inquiry into DNA Project 13 of Mr Brett Scott, Dr Jeremy Watherston and Natasha Mitchell (**FSQ Leadership Team Submission**).
[77] See statement of Reece Parry dated 27 October 2023 (MSC.010.033.0001) (**Parry Statement**).
[78] They are: Emma Caunt, Dr Ingrid Moeller, Alicia Quartermain, Kylie Rika and Angelia Keller.
[79] See First COI Report at pp v-vi [9]. The evidence of each of the whistleblowers is referred to variously throughout the First COI Report (e.g. pp 131-132 [427], pp 289-294 [918]-[936] and pp 322-325 [1024]-[1033]), including the statements of Ms Emma Caunt dated 6 October 2022 (First COI, Exhibit 73), Dr Ingrid Moeller dated 6 October 2022 (First COI, Exhibit 77), Ms Alicia Quartermain dated 21 September 2022 and 6 October 2022 (First COI, Exhibits 59 and 60), Mr Rhys Parry dated 6 October 2022 (First COI, Exhibit 67), Ms Kylie Rika dated 6 October 2022 (First COI, Exhibit 78) and Ms Angelina Keller dated 6 October 2022 (First COI, Exhibit 64).
[80] Exhibit LAY.010.046.0001, Statement of Hannah Jarman dated 3 November 2023 (**Jarman Statement**).

F. DNA EXTRACTION AND THE EVIDENCE AT THE HEARING

86. ***Background***: By the Terms of Reference, the inquiry for this COI extends, first, into the process of DNA extraction undertaken at the QHFSS Laboratory before, and for the purposes of, the introduction of the Automated DNA IQ Method on the MultiProbe Device (*viz.* Project 13), and secondly into its development and implementation on 29 October 2007. It was thus necessary for this COI also to examine aspects of the QHFSS Laboratory's developments in DNA extraction after the implementation of Project 13 and the reasons for those developments.

87. A key issue for consideration was the process by which the QHFSS Laboratory is said to have validated its DNA extraction methods and the robustness of those validations. This COI inquired into these topics in two ways.

88. *First*, the COI undertook a factual inquiry into the steps undertaken by the QHFSS Laboratory to implement new automated DNA extraction methods from 2007 to 2016 and the reasons for those steps. The COI received oral evidence concurrently from five scientists who were members of the QHFSS Laboratory's Automation Implementation Team[81] immediately prior to and shortly after Project 13's implementation (Mr Nurthen, Dr Hlinka, Ms Ientile, Ms Gallagher and Mr Muharam), and from Mr Alan McNevin who was at that time a Senior Scientist in the Analytical Team. Mr McNevin's workspace was directly next to that of Mr Nurthen, Dr Hlinka and Dr Muharam.[82] Further, Mr McNevin had been trained by the manufacturer of the MultiProbe Device and had been involved in some earlier liquid handling validations for that device.[83] These scientists gave evidence about the steps they took prior to, during and after their reported validation and implementation of the Automated DNA IQ Method on the MultiProbe Device.

89. Three of these scientists – Mr Nurthen, Mr McNevin and Ms Ientile – returned to give concurrent evidence in a separate session to address issues raised in the statements of Acting Superintendent David Neville (QPS) dated 31 October 2023 and 1 November 2023 and Ms Amanda Reeves (who was a fellow employee of QHFSS) dated 27 October 2023 and 1 November 2023.

90. *Secondly*, the COI received expert evidence concurrently from Dr Budowle, Ms Veth, Dr Wilson-Wilde and Dr Wright, the principal purpose of which was to provide expert opinions as to the Project 13 Report and also evidence responsive to the matters addressed by the Project 13 Scientists and Mr McNevin.

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[81] The Automation Implementation Team also included two more junior scientists, Ms Generosa Lundie and Ms Cecilia Iannuzzi who provided written statements but were not required to give oral evidence, as their statements were deemed to reflect sufficiently their involvement.

[82] COI Hearings, Day 1 (TRA.500.001.0001): T30.15-21 (McNevin).

[83] COI Hearings, Day 1 (TRA.500.001.0001): T30.23-32 (McNevin).

Notably, these experts analysed the robustness of the validation steps undertaken by the Automation Implementation Team for Project 13, as reflected in the Project 13 Report and other projects and the extent to which those steps conformed with best practice.

91. ***DNA extraction, the process***: DNA extraction is a procedure used to isolate DNA from the nucleus of cells. It is undertaken to obtain relatively purified DNA to enable it then to be used for further analysis, including forensic analysis. DNA extraction kits are used in this process. They '*break open human cells to obtain the DNA inside without also picking up contaminants or inhibitors*'.[84] There are several different methods by which DNA may be extracted from cells. This COI focuses on automation of the DNA IQ Kit, which, as the First COI Report simply and briefly put, comprises three steps:[85]

    a. *lysis, which breaks down the cell membranes and proteins holding the DNA in the nucleus of a cell and releases it into a solution.*
    b. *washing, where the DNA is bound to magnetic beads and 'washed' to remove substances that might inhibit DNA testing.*
    c. *elution, where a liquid is added to make the sample ready for processing.*

92. The DNA IQ Kit uses magnetic resin that has the capability to bind DNA when subjected to a particular environmental pH or ionic strength. Accordingly, by using buffers with different pH values or different ionic components, the binding and elution of DNA can be controlled.[86] While the DNA is bound to the resin, the resin-DNA complex is washed using an alcohol-containing buffer in order to remove inhibitors and residual proteins.[87] A magnetic force is applied during the washing procedure to immobilise the resin-DNA complex and to ensure that no DNA is lost during washing.[88]

93. ***Validations of equipment and processes***: The First COI Report addressed the topic of validations of equipment and processes in the following terms:[89]

> *Validations are essential to a laboratory which is to produce reliable results. They must be performed before any new system or process is introduced into the laboratory and confirm that it is fit for the specific purpose for which it is intended. Manufacturers or developers of instruments and systems carry out 'developmental' validations to demonstrate the performance of their systems but proper scientific process requires each laboratory intending to implement a system to validate it itself to ensure its performance, limits of use, and proper functioning*

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[84] First COI Report at p 354 [1113].
[85] First COI Report at p 354 [1114].
[86] Exhibit FSS.0001.0084.1462, *Project 9. Report on the Evaluation of Commercial DNA Extraction Chemistries* (June 2007) at p 2 [2] (**Project 9 Report**).
[87] Project 9 Report at p 2 [2].
[88] Project 9 Report at p 2 [2].
[89] First COI Report at pp 56-57 [230]-[231], internal citations omitted.

within the particular laboratory. Internal validation is required by section 7.2.1.5 of ISO 17025, the international standard to which the laboratory is accredited. In the laboratory, validations have been carried out by internal staff combined into a 'project team'. Staff can indicate their interest in working on a validation or they might be asked to participate by a line manager. The Management Team is responsible for the validation. Its members are supposed to consider, provide feedback and approve the project plan for how the validation is to be carried out as well as the final report.

94. This Report adopts that distillation of the importance of validations. Where an intended process incorporates the introduction of variables from a previously validated process, it is imperative that a validation process consider the impact of each variable separately. Clearly, the assessment of a number of variables introduced concurrently means that it is not possible to determine the impact of each one.

95. The QHFSS Laboratory intended several of the project reports addressed in this chapter to constitute validations of the QHFSS Laboratory's equipment and processes for DNA extraction. However, the QHFSS Laboratory's validation processes were deficient in various respects. As will become apparent, these deficiencies assumed particular significance in the QHFSS Laboratory's move from manual to automated DNA extraction.

96. ***The impetus for automated DNA extraction***: By 2004, there was a significant backlog in the processing of crime samples in Queensland for analysis and comparison to known suspects on the Queensland and National DNA database. These included crime scene samples from '*major crimes (including homicides and sexual assaults)*' and from '*volume crimes (including unlawful entries and stolen vehicles)*'.[90]

97. As part of the then Queensland Government's 2004 election commitments, $11 million in funding was provided over three years to address the backlog in the processing of crime scene samples.[91]

98. As noted above, in 2005, a Ministerial Taskforce, Forensic and Scientific Services was established to report, *inter alia*, on QHFSS's ongoing management of crime sample forensic analysis and the adequacy of the allocated funding.[92] This resulted in Recommendation 8 as set out in paragraph [36] above.

99. Three matters of significance follow from this recommendation: *first*, the need for efficiency in undertaking validations; *secondly,* a recognition amounting to a recommendation that, in ensuring efficiency, it was

[90] 2005 Report at p 32 [6.3.1].
[91] 2005 Report at p 2 [1.1].
[92] 2005 Report; First Reeves Statement at p 5 [14(b)(v)].

acceptable to use third party validations; and *thirdly*, notwithstanding the need for efficiency, scientific accountability and integrity remained paramount.

100. ***The MultiProbe Device***: The MultiProbe Device is the robotic device that, following the publication of the 2005 Report, was purchased for use in the QHFSS Laboratory. It is a robotic liquid handling system designed for the automation of sample preparation procedures.[93] The QHFSS Laboratory used two MultiProbe Device extraction platforms: one for use on reference samples and the other for use on case work samples.[94] It also had two further platforms for use in post-extraction analysis.[95] The MultiProbe Device may be programmed to undertake end-to-end DNA extraction or it may be programmed such that some steps in that process are performed manually (e.g. the lysis step). Steps performed on the MultiProbe Device were known as '*on-deck*' steps; those performed manually, which is to say, without the use of the MultiProbe Device, were known as '*off-deck*' steps.[96]

101. ***The Chelex method***: Prior to June 2007, the QHFSS Laboratory used Chelex (as distinct from the DNA IQ Kit) manually to extract DNA from substrates. The basic Chelex protocol involves the extraction of DNA by boiling samples in a Chelex suspension and then adding a portion of the supernatant directly to the PCR (polymerase chain reaction) mix.[97] Whilst Chelex was an improvement over earlier DNA extraction methods,[98] it had its drawbacks. Among them is its inability fully to remove impurities such as inhibitors from the extracted DNA solution.[99] Further, as stated by Mr Nurthen, Chelex, is a '*fairly non-specific method*' and thus not '*super, super sensitive to lower amounts of cells*'.[100] Neither Mr Nurthen[101] nor Mr McNevin[102] had any recollection of any validation reports for Chelex when it was first implemented.

102. ***Project 9, investigating a new method of DNA extraction***: In June 2007, the QHFSS Laboratory undertook a project to evaluate new DNA manual extraction technologies designed specifically for forensic samples, which could potentially be used in an automated process. The QHFSS Laboratory aimed to identify a kit with the capacity to:[103]

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93 Second Nurthen Statement at 30 (Annexure TN-03).
94 Second Nurthen Statement at 30 (Annexure TN-03).
95 First Nurthen Statement at 460 (Annexure TN-19).
96 COI Hearings, Day 1 (TRA.500.001.0001): T48.19-25 (Nurthen).
97 Exhibit QHC.7000.0009.0037, CaSS Forensic and Scientific, QIS17171v10, Method for Chelex Extraction of DNA (approved 16.04.2007).
98 Project 9 Report at p 1 [2].
99 Project 9 Report at p. 1 [2]. See also COI Hearings, Day 1 (TRA.500.001.0001): T17.30-35, T63.22-25 and T139.7-10 (Nurthen); COI Hearings, Day 1 (TRA.500.001.0001): T56.30 (Ientile).
100 COI Hearings, Day 1 (TRA.500.001.0001): T99.12-14 (Nurthen).
101 COI Hearings, Day 1 (TRA.500.001.0001): T80.1-2 (Nurthen).
102 COI Hearings, Day 1 (TRA.500.001.0001): T139.21-23 (McNevin).
103 Project 9 Report at p 1 [2]. See also COI Hearings, Day 1 (TRA.500.001.0001): T17.30-33.

- '*Improve removal of inhibitors present in the sample that can affect DNA extraction (e.g. hemoglobin (sic), textile dyes) or prevent successful PCR amplification (e.g. hematin, melanin, polysaccharides, bile salts, humic compounds);*
- *Maximise recovery of DNA in trace (low copy number) samples by using special buffers that promote cell lysis and integrating a DNA capture system that allows efficient binding and elution of sample DNA, therefore increasing total yields;*
- *Increase the overall quality and purity of recovered DNA by using special elution or storage buffers, therefore enhancing DNA stability for long-term storage, ensuring reliability and consistency in the sample DNA for reworks and future use.*'

103. The QHFSS Laboratory undertook the work identified in a report entitled, '*Project 9: Report on the Evaluation of Commercial DNA Extraction Chemistries*' (**Project 9 Report**). It compared five commercially available DNA extraction kits against its then current in-house (manual) Chelex protocol and assessed the overall performance of the kits by reference to total DNA yield, the quality of the resulting DNA, the ability of the kits to remove inhibitors, the kits' ease of use, the availability of validated forensic protocols for the kits and the protocols' validation for use on the MultiProbe Device.[104]

104. Of the DNA extraction kits tested, the QHFSS Laboratory determined that the (manual) DNA IQ Kit manufactured by Promega Corp in the USA (**Promega Manual Method**) was the '*best out-of-the-box method for DNA extraction of cell and blood samples*'.[105] The Project 9 Report recommended that further studies be performed on the Promega Manual Method to validate a manual method applicable to the QHFSS Laboratory's substrate types (**Manual DNA IQ Method**), and to verify an automated method for use on the MultiProbe Device and, again, applicable to the Laboratory's substrate types (this ultimately being the Automated DNA IQ Method).[106]

105. ***Project 11, investigating the automation of DNA extraction***: Shortly upon its completion of Project 9, the QHFSS Laboratory started to investigate an automated DNA extraction method. The QHFSS Laboratory started that process by first undertaking the work identified in a report entitled, '*Project 11: Report on the Validation of a Manual Method for Extracting DNA using the DNA IQ System*' (**Project 11 Report**). Although the Project 11 Report produced to this COI is dated August 2008, the investigation and analysis to which it pertains were undertaken between June and October 2007.[107] The QHFSS Laboratory investigated and reported on modifications that had been made to the Promega Manual Method – that is, the Automation Implementation Team had made changes to the manufacturer's steps

[104] Project 9 Report at p 13 [6.1]; see also at p 1 [1].
[105] Project 9 Report at p 1 [1].
[106] Project 9 Report at p 13 [6.1]; see also at p 33 [7].
[107] COI Hearings, Day 1 (TRA.500.001.0001): T17.39-T18.12 (Nurthen, Ientile and Dr Hlinka).

in the method. The Project 11 Report concluded that the team had '*validated*' the Manual DNA IQ Method identified in the report for use in manual extraction of blood and cell samples from a variety of substrates (other than tapelifts).[108] The report recommended that the Automation Implementation Team next '*design and verify an automated protocol of the validated DNA IQ™ method*' for use on the MultiProbe Device to process cell and blood samples.[109]

106. There were four main modifications made by the Project 11 team to the '*out-of-the-box*' Promega Manual Method to arrive at the Manual DNA IQ Method.

107. *First*, the process was modified to include a lysis step using an extraction buffer in the presence of Proteinase K, prior to incubation in the DNA IQ lysis buffer. This modification was undertaken to follow the automated protocol validated for use on the MultiProbe Device and developed by another laboratory, that at the CFS.[110]

108. *Secondly*, the process was modified to lower the lysis incubation conditions from about 65°C to 37°C. This was done to broaden the range of samples to which the process could be applied. Notably, some substrates, such as nylon and polyester, were susceptible to degradation at higher temperatures and the QHFSS Laboratory wished to avoid '*problems with DNA being encased by dissolving samples which would have lowered the yield*'.[111] Again, this modification to the process followed the CFS automated protocol.[112] In this regard, Mr Nurthen and Dr Hlinka stated that 37°C was (and is) a standard and acceptable temperature at which to perform lysis because Proteinase K operates satisfactorily at that temperature.[113]

109. *Thirdly*, the process was modified to include a double elution step of 50µL whereas the CFS automated DNA IQ method had a smaller, single, elution volume towards the lower amount recommended in the Promega Manual Method, *viz*. 25-100µL. This step was introduced to obtain a higher DNA yield; the experience of the QHFSS Laboratory was that DNA was still bound to the resin beads after a single elution step and a double elution step allowed for the recovery of additional DNA.[114] Although the double elution resulted in a lower concentration, it produced a higher yield and, where necessary, the QHFSS Laboratory undertook an additional concentration step.[115]

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[108] Exhibit FSS.0001.0084.1462, *Project 11. Report on the Validation of a Manual Method for Extracting DNA using the DNA IQ System* (August 2008) at p 20 [7] (**Project 11 Report**).
[109] Project 11 Report at p 20 [7].
[110] COI Hearings, Day 1 (TRA.500.001.0001): T19.33-T21.47 (Dr Hlinka); Dr Hlinka Statement at p 8, pt 4.
[111] See COI Hearings, Day 1 (TRA.500.001.0001): T22.23- T24.8, especially at T23.43-T24.8 (Dr Hlinka); Dr Hlinka Statement at p 8, pt 5.
[112] COI Hearings, Day 1 (TRA.500.001.0001): T23.11-16 (Nurthen).
[113] COI Hearings, Day 1 (TRA.500.001.0001): T25.17-30 (Dr Hlinka).
[114] COI Hearings, Day 1 (TRA.500.001.0001): T26.2-28 (Dr Hlinka / Nurthen).
[115] COI Hearings, Day 1 (TRA.500.001.0001): T26.30-T27.7 (Nurthen).

110. *Fourthly*, the QHFSS Laboratory made changes to the plasticware and consumables. In the first instance, it adopted the NUNC tube plasticware then already in use in the laboratory.[116] In the second instance, the QHFSS Laboratory incorporated the SlicPrep device, a 96-well spin basket. This was a device newly released on the market for which there were no protocols or various other consumables.[117]

111. Taken individually, the making of such modifications was not controversial – indeed, the independent experts acknowledged that the making of modifications was routine and to be expected.[118] However, each modification should have been tested one at a time to ensure that each was scientifically rigorous.[119] This was necessary to ensure validation. While it is apparent that this is what ought to have occurred, it did not in the present case. As such, although the Automation Implementation Team styled their work as the '*validation*' of the modified manual '*out-of-the-box*' process, the independent experts agreed that this work fell short of a proper scientific validation.[120] It also meant that any failure or decreased efficiency of the extraction of DNA from samples could not, without further experimentation, be linked to any one of the variables.

112. ***Project 13, verification for use on MultiProbe Device***: The QHFSS Laboratory thereafter investigated whether the DNA IQ Manual Method was suitable for use in an automated system using the MultiProbe Device. It is this investigation which was known as '*Project 13*'. The results of the QHFSS Laboratory's investigation were set out in the Project 13 Report titled: *'Project 13: Report on the Verification of an Automated DNA IQ Protocol using the MULTIPROBE II PLUS HT EX with Gripper Integration Platform*'. The latest version of the Project 13 Report is dated August 2008; however, it may be inferred from the evidence[121] that the investigation and analysis pertaining to it were undertaken prior to implementation on 29 October 2007, and various drafts of the most recent version of the report came into existence from about 11 October 2007.[122]

113. Nonetheless, it is the August 2008 version that first came to the attention of Dr Wright (it having been in evidence in the First COI, but not given to her for consideration in that Inquiry) and it is the August 2008 version that was considered by Dr Wilson-Wilde when she prepared the 20 October 2022 report.

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116 COI Hearings, Day 1 (TRA.500.001.0001): T29.3-20 (Dr Hlinka).
117 COI Hearings, Day 1 (TRA.500.001.0001): T29.42-44 (Nurthen).
118 COI Hearings, Day 2 (TRA.500.002.0001): T153.6-11, T154.9-11 and T154.23-24.
119 COI Hearings, Day 2 (TRA.500.002.0001): T153.12-20, T154.11-120 and T154.23-24.
120 COI Hearings, Day 2 (TRA.500.002.0001): T157.41-T158.23 (Dr Wilson-Wilde); COI Hearings, Day 2 (TRA.500.002.0001): T158.46-T159.2 (Veth); COI Hearings, Day 2 (TRA.500.002.0001): T159.8-9 (Dr Budowle).
121 See COI Hearings, Day 1 (TRA.500.001.0001): T87-88.
122 First Nurthen Statement p 15 [76]. See also First Nurthen Statement at Annexure TN-17 and Annexures TN-19-TN-27.

114. Dr Wright has drawn attention to the Project 13 Report not only by pointing to flaws in the experimental design and failed results, but also by pointing out that the main conclusion in the Abstract ('*that results from the automated procedure are comparable to those for the manual procedure*'[123]) is inconsistent with the interpretation of the data and is misleading.

115. The data in the Project 13 Report, as set out most plainly in a series of bar graphs in the report, show very clearly that the results of the automated procedure were considerably worse than those for the DNA IQ Manual Method. The data and figures show that the Automated DNA IQ Method was *not* able to report DNA yields anywhere near the success rate achieved for the DNA IQ Manual Method.[124] Indeed, the Automated DNA IQ Method failed to recover detectable DNA from blood on cotton and rayon swabs at 1/100 and 1/1,000 (such dilutions being comparable to trace blood samples from a crime scene).[125]

116. The evidence before the COI confirms several matters of importance regarding the Project 13 Report:

(a) it is a draft document – this was agreed by the participants in both the scientist and independent expert hot tubs and is apparent on the face of the Report;[126]

(b) as indicated above, it bears the date of '*August 2008*' (as its purported date), but the Automated DNA IQ Method was introduced in the QHFSS Laboratory on 29 October 2007;

(c) it is unclear who were the actual authors of the document. The named authors who gave evidence to the COI denied knowledge of authorship, although Dr Hlinka acknowledged that he contributed to writing part of it, and noted that the reference style used his template,[127] whilst Mr Nurthen thought it likely that he wrote part of the document (but could not identify which part);[128]

(d) none of the QHFSS Laboratory scientists who gave evidence said they wrote the Abstract – the most that was said was that Mr Nurthen believed it was probably dropped in from the abstract of another report (called '*Report 1*').[129] Nevertheless, a sentence was added supporting the recommendation for implementation of the Automated DNA IQ Method but none of the scientists could identify the author of that sentence;[130]

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123 Second Nurthen Statement at 361 (Annexure TN-17) (emphasis added).
124 See Project 13 Report at pp 12-15.
125 See Project 13 Report at p 13.
126 COI Hearings, Day 1 (TRA.500.001.0001): T112.1-10 (Nurthen); COI Hearings, Day 1 (TRA.500.001.0001): T112.12 (Dr Hlinka); COI Hearings, Day 1 (TRA.500.001.0001): T112.29-42 (Muharam); COI Hearings, Day 1 (TRA.500.001.0001): T67.15-20 (Ientile); COI Hearings, Day 2 (TRA.500.002.0001): T159.21-24, T160.20-21 and T162.5 (Dr Budowle); COI Hearings, Day 2 (TRA.500.002.0001): T158.2 and T161.19-22 (Veth); COI Hearings, Day 2 (TRA.500.002.0001): T160.1-2 and T160.11-12 (Dr Wright). See also the submission dated 2 November 2023 on behalf of Mr Nurthen, Mr McNevin, Mr Muharam, Ms Lundie, Ms Gallagher and Ms Ianuzzi.
127 COI Hearings, Day 1 (TRA.500.001.0001): T109.17-23 (Dr Hlinka).
128 COI Hearings, Day 1 (TRA.500.001.0001): T110.14-15 (Nurthen).
129 COI Hearings, Day 1 (TRA.500.001.0001): T104.5-32 (Nurthen).
130 COI Hearings, Day 1 (TRA.500.001.0001): T108.2-23 (Nurthen / Dr Hlinka / McNevin / Muharam / Gallagher / Ientile).

(e) Mr Nurthen produced, as part of his written evidence, 10 different iterations of the draft report;[131] and, it is not apparent from the evidence which protocol from which iteration was used in the QHFSS Laboratory, or, indeed, whether they were all used at varying points in time;

(f) there is no evidence to suggest that the Project 13 Report was ever freed of its draft status and thus finalised: although Dr Hlinka thinks that it might have been, he did not put before the COI anything to suggest that it was finalised or that might support such an inference;[132]

(g) there is no evidence to suggest that it was distributed outside the QHFSS Laboratory to any other organisation or entity, such as the QPS.[133]

117. The status of the Project 13 Report is thus entirely unsatisfactory. Indeed, the only certainty that the evidence reveals is this: as it has long been said, success is claimed by all, but failure is an orphan. The foregoing indicates that the Project 13 Report was quintessentially an orphan. For the reasons that follow, it will be apparent that it was also a failure.

118. The data and results contained in the Project 13 Report reveal, even prior to its implementation in October 2007, that the use of the Automated DNA IQ Method (on the MultiProbe Device) was failing to extract sufficient DNA from crime samples. Blood samples, which should have been rich sources, were failing to yield any DNA.

119. Shortly before the launch of the Automated DNA IQ Method, Mr Nurthen told Ms Ientile that he was concerned that the method was not ready to '*go live*' because the yields were too low.[134] He informed her of his views at the weekly project update meetings on 9 October 2007 and again on 16 October 2007.[135] Ultimately, Mr Nurthen did not seek to escalate his concerns, noting that the QHFSS Laboratory intended to continue to optimise the automated method's development after implementation.[136] Ms Ientile does not have an independent recollection of this matter, although she infers from an email that she sent to all staff at the QHFSS Laboratory that the launch was a '*slow*' implementation involving significant training.[137]

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131 First Nurthen Statement at Annexures TN-18-TN-27.

132 COI Hearings, Day 1 (TRA.500.001.0001): T108.28-T109.7 and T111.17-T112.12 (Nurthen / Dr Hlinka).

133 COI Hearings, Day 1 (TRA.500.001.0001): T114.3-6 (Nurthen); COI Hearings, Day 1 (TRA.500.001.0001): T113.30-35 (Dr Hlinka); COI Hearings, Day 1 (TRA.500.001.0001): T114.10-11 (McNevin); COI Hearings, Day 1 (TRA.500.001.0001): T112.44-T113.46 (Muharam); COI Hearings, Day 1 (TRA.500.001.0001): T113.18-22 (Gallagher); COI Hearings, Day 1 (TRA.500.001.0001): T113.45-46 (Ientile).

134 COI Hearings, Day 1 (TRA.500.001.0001): T58.44-T59.26 (Nurthen); First Nurthen Statement at p 17 [89]-[91], Annexure TN-29 and Annexure TN-30.

135 First Nurthen Statement at Annexure TN-29 and Annexure TN-30.

136 COI Hearings, Day 1 (TRA.500.001.0001): T62.44-47 (Nurthen).

137 COI Hearings, Day 1 (TRA.500.001.0001): T61.13-45 (Ientile).

120. The scientists candidly stated that at that time the QHFSS Laboratory was gripped by an urgency to automate to clear the backlog in crime samples. Ms Gallagher stated: '*there had been previous inquiries and investigations into the backlog of the laboratory and, ultimately, everybody was working with a goal to try to achieve clearing that backlog and this was one aspect of trying to clear that backlog through the implementation of the automated platforms*'.[138] As Mr McNevin said: '*I guess from my perspective at the time, the lab had a massive backlog of work and so if we had just continued down a fully manual method, we would have been irresponsible, because a lot of work wouldn't have just got done*'.[139]

121. Mr Nurthen stated that, having invested considerable money in the robotics, they persisted with them to try '*to get an efficient workflow*'.[140] He reasoned that the Automated DNA IQ Method was better than Chelex, in that it provided cleaner DNA extract without the need for additional processing.[141] It was hoped that this in turn would increase the capacity within the QHFSS Laboratory.[142] With these factors in mind, including his view that a lower but cleaner yield could still be utilised, and observing that while the QHFSS Laboratory was not getting as much DNA, it was still getting DNA profiles down to 1/100 dilution, Mr Nurthen satisfied himself that the Automated DNA IQ Method could be implemented.[143] Notably, Mr Nurthen was unable to say whether Chelex would perform at that dilution because the QHFSS Laboratory never did the comparison to know.[144]

122. I am satisfied that at all times Mr Nurthen and his team tried hard to optimise the Automated DNA IQ Method. However, the work that he and his team carried out was compromised by the lack of proper process and validation.

123. Within a short time after the Automated DNA IQ Method was introduced in the QHFSS Laboratory, it became apparent that it was not operating optimally. This was addressed by the First COI during the course of what was called '*Module 4*', where it was observed that: *(i)* contamination was first reported on 11 February 2008;[145] *(ii)* a decision was made in July 2008 to cease use of the automated method (so that contamination issues could be investigated); *(iii)* the QHFSS Laboratory reverted to the manual method for a period of about 12-18 months; and *(iv)* by August 2009 the contamination issue had been resolved and the fully automated method then commenced to be used again (from 20 August 2009).[146]

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138 COI Hearings, Day 1 (TRA.500.001.0001): T58.7-13 (Gallagher).
139 COI Hearings, Day 1 (TRA.500.001.0001): T57.2-5 (McNevin).
140 COI Hearings, Day 1 (TRA.500.001.0001): T56,6-21 (Nurthen).
141 COI Hearings, Day 1 (TRA.500.001.0001): T63.22-25 (Nurthen).
142 COI Hearings, Day 1 (TRA.500.001.0001): T63.25-28 (Nurthen).
143 COI Hearings, Day 1 (TRA.500.001.0001): T63.28-29, T63.31-35 and T70.4-5 (Nurthen).
144 COI Hearings, Day 1 (TRA.500.001.0001): T70.4-7 (Nurthen).
145 First COI Report at p 355 [1117].
146 First COI Report at p 359 [1135].

124. Both Mr Nurthen and Mr McNevin were of the firm view in their evidence to this COI that samples from the introduction of Project 13 were, in effect, potentially compromised and that it was necessary to re-test samples from the beginning of that period, namely October 2007. The independent experts expressed views consistent with this position.[147] There was no opinion expressed to the contrary.

125. The independent experts also described the process by which such a reassessment of samples would properly be made. That was in terms such as '*legally led*', '*science led'* and '*materiality'*. The COI notes in that regard that such a process was set out in Recommendations 13 and 14 of the First COI (see especially 14(d) and (e)).

126. However, as will be apparent, the period from October 2007 to July 2008 was not the end of the period of concern.

127. The Automated DNA IQ Method (using the MultiProbe Device) continued to be used until 21 November 2016 when the QIAsymphony instruments were introduced.[148]

128. ***Projects 21 and 22: moving to off-deck lysis***: The Project 13 Automated DNA IQ Method provided for all steps in the extraction process to be performed on the MultiProbe Device (*viz.* '*on-deck*'). However, in early 2008, two further projects were developed.

129. The first was detailed in the report entitled, '*Project 21: A modified DNA IQ™ Method Consisting of Off-Deck Lysis to Allow Supernatant Retention for Presumptive Identification of α-Amylase*'.[149] The second was detailed in the report entitled, '*Project 22: A modified DNA IQ™ Method for Off-Deck Lysis Prior to Performing Automated DNA Extraction*'.[150]

130. Project 21 compared two methods of *off-deck* – which is to say, manual – lysis of forensic samples in 1.5mL tubes prior to automated extraction on the MultiProbe Device.[151] The methods differed insofar as one involved the retention of supernatant for other testing. For that method, 150µL of extra buffer was added to allow 150µL of supernatant to be retained.[152] Mr Nurthen and Mr McNevin each gave evidence that Project 21 was undertaken because the QHFSS Laboratory found that the SlicPrep device was too

147 See e.g. COI Hearings, Day 2 (TRA.500.002.0001): T191.12-18 (Veth); COI Hearings, Day 2 (TRA.500.002.0001): T191.41-47 (Dr Wright).
148 See First COI Report at p 359 [1135].
149 First Ientile Statement at p 95 of Annexures (Annexure VI-5).
150 First Ientile Statement at p 95 of Annexures (Annexure VI-5).
151 Exhibit FSS.0001.0084.1422, *Project 21. A modified DNA IQ™ Method Consisting of Off-Deck Lysis to Allow Supernatant Retention for Presumptive Identification of α-Amylase* (February 2008) at p 1 (**Project 21 Report**).
152 Project 21 Report at p 4.

difficult and too laborious to use.[153] Taking the lysis component off-deck was an attempt to overcome this.[154] Project 22 investigated the amount of time for which samples could be stored in the extraction buffer following off-deck lysis but prior to automated DNA IQ extraction.[155]

131. The off-deck lysis step employed in Projects 21 and 22 differed from the Automated DNA IQ Method lysis step in several respects. *First*, lysis was performed at 37°C on a thermomixer at 1,100rpm instead of on a shaker with heater tiles controlled by the automatic heat controller. *Secondly*, sample substrates in each individual tub were separated from the lysate using a DNA IQ spin basket instead of the Slicprep basket with collar attached. *Thirdly*, Proteinase K was inactivated at 65°C on a thermomixer at 1,100rpm, instead of on the shaker.

132. There is no evidence before this COI that these two projects were properly validated, or that they introduced changes in a stepwise fashion.

133. ***Re-implementation of Automated DNA IQ Method in 2009***: Following the first contamination event in February 2008, further reports of contamination were made in April, May and June of that year.[156] As a consequence, on 28 July 2008, the Automated DNA IQ Method was taken offline.[157]

134. From 28 July 2008, the QHFSS Laboratory instead used Chelex and other methods including the DNA IQ Manual Method and NucleoSpin.[158]

135. The re-implementation of the Automated DNA IQ Method followed the resolution of the contamination issues. The topic of contamination was considered by the First COI in detail. It is not the subject of this COI. Instead, this COI has an interest in the steps taken by the QHFSS Laboratory for the purpose of re-introducing the Automated DNA IQ Method upon the resolution of the contamination problem.

136. In April 2009, the Automated DNA IQ Method was reimplemented in modified form pursuant to the project document entitled *'Re-implementing the automated DNA IQ™ extraction protocol on the MultiPROBE® II Plus HT EX Forensic Workstation platforms, and associated processes*' (**2009 Re-Implementation Report**).[159] The modified version was quite different from the Automated DNA IQ Method that had been

153 COI Hearings, Day 1 (TRA.500.001.0001): T96.18-98.18 (Nurthen / McNevin). See also Project 21 Report.
154 COI Hearings, Day 1 (TRA.500.001.0001): T96.18-98.18 (Nurthen / McNevin).
155 Exhibit FSS.0001.0084.1436, *Project 22. A modified DNA IQ™ Method for Off-Deck Lysis Prior to Performing Automated DNA Extraction* (February 2008).
156 See First COI Report at p 355 [1117].
157 First Nurthen Statement at p 611 (p 2 [3] of Annexure TN-32).
158 COI Hearings, Day 4 (TRA.500.004.0001): T315.1-8 (Nurthen / McNevin).
159 First Nurthen Statement at p 19 [97(b)] and Annexure TN-32.

used in the QHFSS Laboratory.[160] In its attempts to reduce cross-contamination, the QHFSS Laboratory made various changes to the equipment used and it reduced off-deck lysis volumes from 500µL to 300µL to minimise the risk of well-to-well splashing.[161] While doing so, the QHFSS Laboratory sought to optimise other steps in the process. Most notably, after undertaking off-deck lysis, the QHFSS Laboratory elected to mix the resin manually.[162] In this regard, Mr Nurthen expressed the view that the mixing step is critical to ensure that the DNA successfully binds to the resin beads and is subsequently successfully released.[163]

137. It is clear from the 2009 Re-implementation Report that *efficiency* was considered as part of the validation process to reintroduce the MultiProbe Device to the automated system used in the QHFSS Laboratory. Mr Nurthen concluded from the testing that '*the modified method was very sensitive and able to isolate low copy number DNA samples at a very high recovery rate that was close to 100%*'.[164] This was because the quality of the DNA obtained was much higher than that of the Chelex method. Having come to this conclusion, Mr Nurthen did not consider yields to be an issue from re-implementation onwards.[165] The QHFSS Laboratory believed that it had validly re-introduced the modified Automated DNA IQ Method as at April 2009.

138. However, the QHFSS Laboratory failed properly to validate the modified Automated DNA IQ Method (using the MultiProbe Device), and thus failed properly to re-implement it. The QHFSS Laboratory used genomic DNA as an efficiency control,[166] not extracted DNA.[167] Further, it tested only the on-deck component of the process,[168] and thus failed to test the end-to-end DNA extraction process.[169] Additionally, there is no evidence to suggest that the QHFSS Laboratory subsequently undertook any experiments to test the end-to-end DNA extraction process.[170] Consequently, it would have been impossible to know the efficiency of the DNA yield of any extracted sample from the re-implemented automated system.[171]

139. Dr Budowle concluded that while the test (set out in the 2009 Re-Implementation Report) appeared to be one designed to '*justify sensitivity of the assay*', it was not possible to do that with the test that was

[160] First Nurthen Statement at p 620 (p 11 of Annexure TN-32).
[161] First Nurthen Statement at p 611-612 (pp 2-3 of Annexure TN-32).
[162] COI Hearings, Day 1 (TRA.500.001.0001): T102.25-32 (Nurthen); First Nurthen Statement at Annexure TN-32.
[163] COI Hearings, Day 1 (TRA.500.001.0001): T102.25-32 (Nurthen).
[164] First Nurthen Statement at p 19 [97(b)] and 623 (p 14, fig 8 of Annexure TN-32).
[165] First Nurthen Statement at p 19 [97].
[166] COI Hearings, Day 2 (TRA.500.002.0001): T174.30 (Dr Wilson-Wilde).
[167] COI Hearings, Day 2 (TRA.500.002.0001): T174.35 (Dr Wilson-Wilde).
[168] COI Hearings, Day 2 (TRA.500.002.0001): T174.43-47 (Dr Wilson-Wilde).
[169] COI Hearings, Day 2 (TRA.500.002.0001): T174.35 (Dr Wilson-Wilde).
[170] COI Hearings, Day 2 (TRA.500.002.0001): T175.4-9 (Dr Wright).
[171] COI Hearings, Day 2 (TRA.500.002.0001): T173.23-25 (Veth).

performed.[172] Dr Wilson-Wilde concluded that, in these circumstances, the re-implementation was not properly validated and was not done in accordance with good practice.[173] Thereafter, there is no evidence to demonstrate that following re-implementation, and between 2009 and 21 November 2016, the QHFSS Laboratory had actually improved the Automated DNA IQ Method, or had overcome all previous issues with the automated system since its introduction on 29 October 2007.[174] As Ms Veth stated:[175]

> *'…we still don't seem to have sensitivity data to support the use of this method. We still have questions about the yields of DNA that the method is producing, and I understand there were some assumptions made that it didn't matter that the yields were low because the profiling results were better, or better than Chelex, but I haven't seen any data to support that anywhere, and I would just - I would challenge that that is actually the case.'*

140. This in turn raises a significant question as to quality assurance and quality control in the QHFSS Laboratory at these times. As Dr Budowle emphasised, *'we have to be concerned that maybe the laboratory didn't have a full appreciation of what a quality system is.'*[176]

141. It is clear, from the evidence, that the Automated DNA IQ Method re-introduced in 2009 was never properly validated and should not have been re-introduced.

142. The re-introduced Automated DNA IQ Method ceased to be used in the QHFSS Laboratory on 21 November 2016.

143. ***Project 70: verification of Maxwell® 16 robot***: In this context, something remains to be said about one further report, entitled, '*Phase 1 Report – Verification of Promega DNA IQ™ for the Maxwell 16*' (the **Project 70 Report**).[177] Project 70 was conducted to verify a new robot, the Maxwell® 16.[178] The Maxwell® 16 operates with off-deck lysis and, unlike the MultiProbe Device, it has limited scope for customisation.[179]

144. An evidential dispute arose between Dr Wright and Mr McNevin regarding the significance of Project 70. It was Dr Wright's initial opinion that Project 70: *(i)* compared the failed Automated DNA IQ Method with

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[172] COI Hearings, Day 2 (TRA.500.002.0001): T176.35-37 (Dr Budowle).
[173] COI Hearings, Day 2 (TRA.500.002.0001): T176.1-3 (Dr Wilson-Wilde).
[174] COI Hearings, Day 2 (TRA.500.002.0001): T177.22-25 (Dr Wright).
[175] COI Hearings, Day 2 (TRA.500.002.0001): T180.18-26 (Veth).
[176] COI Hearings, Day 2 (TRA.500.002.0001): T180.37-38 (Dr Budowle).
[177] Exhibit FSS.0001.0001.0084, Project 70 – Phase 1 Report- Verification of Promega DNA IQ™ for the Maxwell®16 (**Project 70 Report**).
[178] Project 70 Report.
[179] COI Hearings, Day 1 (TRA.500.001.0001): T126.2-15 (McNevin).

off-deck lysis with the new Maxwell® 16 robotic method; and *(ii)* showed up to eight times lower DNA recovery in the failed robotic method, compared with the Maxwell® 16 method.[180] Dr Wright concluded that the authors, including Mr McNevin, documented (in the Project 70 Report) that the method using the MultiProbe Device recovered significantly less DNA than it ought to, but did not make recommendations to fix it.[181] Mr McNevin was adamant that Project 70 used data from the Maxwell® 16 that was comparable to those data produced by the DNA IQ manual method; it did not use data from the MultiProbe Device.[182] Ultimately, Dr Wright accepted that the relevant comparison was with the DNA IQ manual method,[183] and this resolved the dispute with Mr McNevin.

145. Nevertheless, this issue highlights another concern raised by Dr Budowle, namely the imprecision in the use of words and expressions in reports that require certainty and specificity. This is not just a question of grammar but also of scientific precision. It is important that steps are taken to ensure that precise and correct language is used in all scientific reports and protocols in the QHFSS Laboratory.

Conclusions: The Project 13 scientists – the implementation of the failed method

146. The implementation of the Automated DNA IQ Method occurred a significant time ago – some 16 years. Given the passage of time it is to be expected that the recollection of the scientists involved in the implementation of the automation project would not have the clarity of recent memories. That said, each of the scientists could be said to have given evidence of their best recollections, often aided in their recall by reviewing historical records. Their oral testimony did not reveal any suggestion that they were giving other than honest recollections. They made many appropriate acknowledgements of the difficulties and deficiencies, and, in evidence, readily recognised many of those deficiencies, arising with respect to the automation project.

147. The fact that at times they provided oral evidence justifying their individual decisions does not diminish their evidence – rather, evidence of that kind may be understood as reflecting their earnest belief that their actions at that time were considered, in their mind, to have been proper and appropriate.

148. The assistance given by Mr Nurthen warrants particular note as, in the course of oral evidence, he was the principal witness for and on behalf of the Project 13 Scientists. He was able to provide the COI with a broad range of documents, which included multiple drafts of the Project 13 Report, as well as information on the history of the development of the implementation project. His responses to the questions put to

[180] Third Dr Wright Statement at p 2 [5(vii)]. See also Third Dr Wright Statement at p 5 [20(iv)] and p 7 [30(v)].
[181] Third Dr Wright Statement at p 2 [5(vii)]). See also Third Dr Wright Statement at p 5 [20(iv)] and p 7 [30(v)].
[182] COI Hearings, Day 1 (TRA.500.001.0001): T127.1-128.1 and T130.38-131-10 (McNevin).
[183] COI Hearings, Day 2 (TRA.500.002.0001): T187.38-45 (Dr Wright).

him were clear and consistent, including with respect to matters raised, of which he was aware, which did not fall under his direct responsibility.

149. It was not apparent to the scientists where or why the problems with the automated system were arising – they never reached the point where they could say, with certainty, what was causing lower yields than might have been expected. Mr Nurthen was of the view at the time that the most likely reason was that there was an issue with respect to the adherence of the DNA with, and then the removal of the DNA from, the magnetic beads; he stated as follows:[184]

> *'Yes, but we think that - well, I think from the experiments that we've seen, that's the critical part, is that binding and the release. It works on an ionic strength, the way the beads and the way the DNA will bind to the beads. So I don't think we had any issue getting the DNA out of any of the cells. I think the 37 degrees and the TNE buffer worked fantastically. I think the issue we were having was having it bound to the beads and getting them back off the beads, hence the double elution being required because some of that DNA was stuck to the beads. Ideally, one elution should allow it to fully come off. But it wasn't coming off.'*

150. Mr Nurthen was concerned when the Automated DNA IQ Method was implemented that the DNA yield was low – and was concerned about the system being '*launch[ed]*'.[185] He raised those concerns with Ms Ientile, the Managing Scientist.[186] Notwithstanding those concerns, a decision was made to go ahead and implement the system, albeit not for all samples – and then to optimise the system '*on the run*'.[187] From other evidence before the COI it is clear that this was not an appropriate way to validate.

151. Once the contamination issues arose in early 2008 (which was only a matter of months after the Automated DNA IQ Method had commenced), the entire focus of the QHFSS Laboratory (and the scientists) was directed to resolving that issue. When that issue was resolved (in mid-2009), reimplementation of the system occurred – and the QHFSS Laboratory team considered that it was appropriate to do so in those circumstances. After undertaking the tests set out in the 2009 Re-Implementation Report,[188] owing to the conclusions reached about the sensitivity of the modified automated method and the very high recovery rate achieved by the automated part of the process that was close to 100%,[189] yields were not considered to be an issue. The Laboratory believed that it had validly re-introduced the Automated DNA IQ Method. However, it can be noted that this did not include the recovery rate from the off-deck lysis and mixing stage.

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184 COI Hearings, Day 1 (TRA.500.001.0001): T28.14-25.
185 First Nurthen Statement at p 17 [89].
186 First Nurthen Statement at p 17 [89].
187 COI Hearings, Day 1 (TRA.500.001.0001): T138.18-20.
188 First Nurthen Statement at Annexure TN-32.
189 First Nurthen Statement at p 19 [97(b)] and p 623 (Annexure TN-32, p 14, fig 8).

152. It is appropriate to reflect upon the observations of the independent experts concerning the conduct of the Project 13 Scientists, both in their implementation and validation of Project 13 and more generally. The following is to be noted:

(a) each of the independent experts (i.e. Dr Budowle, Ms Veth, and also Dr Wright and Dr Wilson-Wilde) were of the view that the approach of the scientists lacked scientific rigour, proper quality control and was insufficiently documented. This, in turn, undermined the ability of the scientists to implement effective continuous improvement processes. Most saliently, there is no evidence that they ever effectively implemented the Automated DNA IQ Method;

(b) there was no evidence which could support the suggestion that the Project 13 Scientists engaged in deliberate misconduct in connection with Project 13;

(c) it could however be said that their conduct reflected systemic clinical governance failures in the QHFSS Laboratory during that period.

153. In light of the discussion above, I conclude that:

(a) the concept of taking a DNA extraction system validated by either a manufacturer or another reputable laboratory was scientifically valid;

(b) the expectation of the QHFSS Laboratory's scientists was that: *(i)* adopting the system would be reasonably straightforward; and *(ii)* they would be able to take the validated system and modify it to encompass an automated version of a manual extraction method;

(c) in implementing the system in this manner, problems were nonetheless encountered in the QHFSS Laboratory;

(d) the understandable desire in the QHFSS Laboratory for efficiency and to overcome a backlog of important samples for testing seems to have superseded the need for scientific accountability and scientific integrity;

(e) Project 13 and its subject matter, being the introduction of the Automated DNA IQ Method for use in the MultiProbe Device, was fatally flawed;

(f) at no time before or after Project 13 was implemented was the Automated DNA IQ Method validated;

(g) the time period during which the Automated DNA IQ Method was used was from 29 October 2007 to 21 November 2016;

(h) although that time period encompasses the use of the Chelex method of extraction for the MultiProbe Device and testing that indicated appropriate efficiency of the MultiProbe Device itself as at April 2009, no proper validations were carried out to support the reliability of the whole procedure of extracting DNA and then utilising the MultiProbe Device;

(i) accordingly, no faith can be placed in results over the whole of the period from 29 October 2007 to 21 November 2016 in cases where there was a failure to measure extracted DNA from samples sufficient for processing;

(j) it follows that all samples in that time period where no, or insufficient, DNA was extracted should be reassessed. Where samples are amenable to re-extraction, decisions should be made for prioritising re-extraction and testing in accordance with Recommendations 13 and 14 of the First COI Report (see especially 14(d) and (e)). These Recommendations conform with the process described by the independent experts in this COI.

154. Having regard to the nature and scope of this COI:

(a) it is not necessary for the Commission to investigate and reach conclusions about every aspect in the automation project. What is clear is that the evidence establishes that the re-testing of samples going back to the beginning of Project 13 is required. That is, to the very introduction of the MultiProbe Device;

(b) there can be no sensible dispute on the evidence that this is the case - this COI cannot be satisfied that the flaws that attended the automation project were ever fully addressed during the period from 29 October 2007 to 21 November 2016. This latter date marks the QHFSS Laboratory's introduction of the QIAsymphony instruments to replace the DNA IQ system;[190]

(c) there is no dispute that the samples themselves will need to be re-tested, not the extracts. Nor is there a dispute that the process should be, first, legally, and then, scientifically, led.

155. The 2005 Report and the First COI discussed in detail the many cultural and operational inadequacies in the QHFSS Laboratory. The consequences of those inadequacies were reflected in the evidence in this COI. In particular, it is apparent that there was no proper appreciation of what was happening in the use of the Automated DNA IQ Method. Matters such as a lack of line of sight over the whole process from sample to final profiling, inadequate reporting, an apparent lack of understanding of what constituted a proper validation process and a lack of assurance and quality control, all contributed to what could be described as a potentially devastating outcome for the criminal justice system, including victims and their families. As was stated by the independent experts, for casework, every sample is critical and precious.

156. Further, the reporting of such experiments as were carried out was haphazard at best. For example, the Project 13 Report went through numerous iterations, of unknown consequence, was never finalised and the method purportedly validated was implemented despite the fact that it was a draft report and one for which no one claims responsibility for writing. This reflects a systemic failure in the governance of the QHFSS Laboratory. Nevertheless, I accept that the scientists were, collectively, doing their best to

[190] First COI Report at p 359 [1135].

overcome problems as they arose, in circumstances where it would seem that delay of implementation was not perceived as a real option for them by reason of a desire urgently to implement automation.

157. Dr Wright urges that those responsible for the implementation ought to be made accountable. Ms Ientile accepted that the decision to implement the Automated DNA IQ Method was her responsibility as the managing scientist[191] but also says that the decision would have been made in consultation with other staff and the advice they had given.[192] Ms Ientile had no independent recollection of the reason for, or circumstances surrounding, her decision made some 16 years ago, namely in October 2007. She also says that *'going live'* did not mean that all manual DNA extraction ceased, but rather that there was a *'slow implementation'* of the Automated DNA IQ Method.[193] Ms Ientile left the QHFSS Laboratory in July 2008 and is no longer a forensic scientist.[194] Given that the scope of this COI has not enabled a full examination of the roles of any of the individuals within the hierarchy of the QHFSS Laboratory, I do not consider that there is sufficient evidence before me to determine the question, fairly and within the allowed timeframe, of where the accountability for that particular decision and its consequences lies. It should also be noted that, as at paragraph [149] above, the evidence was not sufficient to form any conclusion as to the precise cause of the low yields for the Automated DNA IQ Method. Any question of accountability should be considered together with the question of causation.

158. ***Re-testing of historical samples***: In light of the significant concerns raised by Dr Wright regarding the Project 13 Report and the matters set out above, Dr Wilson-Wilde in her capacity as CEO of FSQ informed the COI that FSQ will undertake a review of all samples previously tested on the Automated DNA IQ Method dating back to 29 October 2007 (through to its cessation on 21 November 2016).[195] Queensland Health advised the COI that a total of 121,753 casework samples (including both serious and volume crime samples, and also internal controls) were extracted on the Automated DNA IQ Method between 29 October 2007 and 21 November 2016.[196] After internal controls are excluded, the total number of casework samples extracted using the Automated DNA IQ Method reduces to 103,187. Queensland Health also advised that FSQ believes that, from at least May 2012, the majority of P1 samples (i.e. the highest priority, urgent serious crime samples) were extracted using other extraction methods, such as the Maxwell® 16 process,

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191 COI Hearings, Day 1 (TRA.500.001.0001): T60.41-T61.13.
192 COI Hearings, Day 1 (TRA.500.001.0001): T60.45-T61.4.
193 COI Hearings, Day 1 (TRA.500.001.0001): T61.31-38.
194 See First Ientile Statement at [10]-12], where sets out the roles she has been employed in since leaving the QHFSS Laboratory in July 2008.
195 See COI Hearings, Day 3 (TRA.500.003.0001): T262.12-38 and Exhibit QHC.7000.0004.0031, Meeting Minutes (7 September 2023) – Forensic Justice Advisory Sub-Committee (Draft) (**Draft Forensic Justice Advisory Sub-Committee Minutes (7.9.23)**).
196 Exhibit QHC.7000.0007.0001, Queensland Health Supplementary Response to Items 6 and 7 in Notice 1.001 (**QH Supplementary Response to Notice 1.001, Items 6 and 7**), provided on Friday, 3 November 2023 (after the final day of hearing of the COI).

and were not extracted via the Automated DNA IQ Method,[197] nevertheless other samples, such as those in Shandee Blackburn's case, were extracted by the latter method.

[197] QH Supplementary Response to Notice 1.001, Items 6 and 7.

G. DR WILSON-WILDE AND THE PROJECT 13 REPORT

159. An issue has been raised in this COI with respect to the evidence given by Dr Wilson-Wilde in the First COI, namely her report of 20 October 2022.[198] That report was tendered as part of Module 5 '*Technical Issues at the Laboratory and their resolution*'. Dr Wilson-Wilde was given a series of questions and a number of documents to review for the purposes of preparing that report, including the Project 13 Report.

160. Relevantly, questions arise as to:
    (a) whether Dr Wilson-Wilde identified the failings apparent in the Project 13 Report in the course of preparing and giving evidence to the First COI;
    (b) whether Dr Wilson-Wilde failed to draw the significance of those failings to the attention of the First COI, either adequately or at all;
    (c) the content of subsequent public statements made by Dr Wilson-Wilde as to those matters; and
    (d) whether, by reason of (a) to (c), Dr Wilson-Wilde must have deliberately misled the First COI.

161. ***Background to Dr Wilson-Wilde's 20 October 2022 report:*** As of September 2022, Dr Wilson-Wilde had prepared three reports for the First COI and was in the process of completing a further report.[199] At that time, Dr Wilson-Wilde was employed as the Director of Forensic Sciences South Australia. Her evidence to this COI was that she would '*usually complete* [her] *work for the COI outside of* [her] *usual working hours, including over the weekend*'.[200]

162. On 16 September 2022 Dr Wilson-Wilde was asked via email from junior counsel assisting the First COI, Ms Hedge, if she had capacity to provide a further report by 3 October 2022.[201] The '*issue'* to be addressed as stated in that email included that:[202]

> '*The DNAIQ instrument developed by Promega was utilised at FSS. In and around 2008, it was discovered that the seals from the DNAIQ products (consumables) in the extraction phase were leading to cross-contamination amongst different, unrelated samples … The issue affected many batches of samples and significant work was required to rectify the issue. The FSS was required to send out correspondence to the Queensland Police Service, the Officer of the Director of Public Prosecutions and the Courts about the issue.'*

163. The email contained draft instructions, namely that Dr Wilson-Wilde advise on:

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198 Dr Wilson-Wilde 20 October 2022 Report (see First COI Report at p 353 [1111]).
199 First Dr Wilson-Wilde Statement at p 6 [44].
200 First Dr Wilson-Wilde Statement at p 6 [43].
201 First Dr Wilson-Wilde Statement at p 6 [44] and Annexure LWW-3.
202 First Dr Wilson-Wilde Statement at p 6 [44] and Annexure LWW-3.

'Whether the methods, systems and processes in relation to the above two issues were consistent with international best practice when the issue arose;

Whether the identification, investigation and resolution of the issue was appropriate and consistent with international best practice;

Whether the amended methods, systems and processes implemented in each case was consistent with international best practice.'

164. Dr Wilson-Wilde's understanding of those instructions was that she was to '*look into the contamination of samples that were discovered in 2008*'.[203]

165. On 21 September 2022 Dr Wilson-Wilde received another email from junior counsel assisting containing '*proposed instructions'*. Those instructions included that:[204]

'*general and specific concerns have been raised regarding cross contamination of samples using DNA IQ testing instrument in the QHFSS DNA Analysis Unit*'

'*you have been engaged to review the documentation provided and determine whether the scientific testing process for use of the DNA IQ instrument was scientifically sound and conducted in accordance with international best practice … you will also consider the audit reports and whether the analysis employed was scientifically sound and in accordance with best practice'.*

166. The instructions noted again the matters in paragraph [163] above and asked that Dr Wilson-Wilde's report identify, if any deficiency in the methods, systems or processes for use of the instrument were found, the '*impact of that deficiency on: i. Whether the obtaining of a usable DNA profile from a sample by the laboratory was reliable and accurate; ii. Whether DNA profiles obtained by the laboratory are reliable and accurate'.*[205]

167. Dr Wilson-Wilde's evidence in this COI is that she discussed her instructions with Ms Hedge and also the proposed due date of the report, given that she was due to be overseas from 30 September 2022 to 10 October 2022.[206]

168. On 23 September 2022 Dr Wilson-Wilde received a brief of material, together with a covering email which indicated that further material would be provided on 27 September 2022.[207] On 27 September 2022 Dr Wilson-Wilde met with Ms Hedge to discuss the work required for the task and the timeframe to do so. Dr

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203 First Dr Wilson-Wilde Statement at p 7 [46].
204 First Dr Wilson-Wilde Statement at p 7 [47] and Annexure LWW-4.
205 First Dr Wilson-Wilde Statement at p 7 [47] and Annexure LWW-4.
206 First Dr Wilson-Wilde Statement at p 2 [11].
207 First Dr Wilson-Wilde Statement at p 7 [49] and Annexure LWW-5.

Wilson-Wilde's evidence is that it was '*clear*' to her that the '*work was focused on the contamination issues that arose in and around 2008*', including looking to a potential cause and whether the laboratory's response was consistent with good practice.[208]

169. After giving oral evidence to the First COI on another question, Dr Wilson-Wilde left for overseas. While overseas, on 6 October 2022, she received a further brief of material and, on 12 October 2022, '*refined*' instructions.[209] With respect to the question whether the methods, systems and processes were consistent with international best practice, the amended instructions asked Dr Wilson-Wilde to consider a number of specific questions including whether the '*process that QHFSS introduced, first using automated liquid handler platforms in October 2008 and then commencing processing with 'off deck lysis' in March 2008, to perform automated DNA IQ extractions was consistent with international best practice*'.[210]

170. On 17 October 2022 Dr Wilson-Wilde provided a draft report to Ms Hedge. Ms Hedge then provided feedback on the draft and a virtual meeting occurred.[211]

171. On 18 October 2022, around 6.30pm, Ms Hedge provided Dr Wilson-Wilde with further material to consider including various reports, a chronology and a statement. The Project 13 Report was included in this bundle.[212]

172. The covering email to the provision of the 18 October 2022 material noted that the 'topics' Dr Wilson-Wilde would review included: '*(1) validations … (3) the adequacy of information contained in an OQI report to assist with the identification of systematic issues; and (4) any recommendations you may have for future best practice …*'.[213]

173. On 20 October 2022, at 1.30am, Dr Wilson-Wilde provided a draft report to Ms Hedge. In her covering email she said that she had '*not reviewed the validation documentation…and so cannot comment on the appropriateness of the validation and therefore the appropriateness of the implementation'*.[214] A number of email communications between Dr Wilson-Wilde and Ms Hedge followed in which questions were raised about whether, and to what extent, the draft report dealt with '*validations'*. At around 2.26pm, Ms Hedge emailed Dr Wilson-Wilde and advised her that she was requested to '*do the review of the validation including*

208 First Dr Wilson-Wilde Statement at p 7 [50].
209 First Dr Wilson-Wilde Statement at p 8 [51]-[55] and Annexures LWW-6 and LWW-7.
210 First Dr Wilson-Wilde Statement at p 8 [55] and Annexure LWW-7.
211 First Dr Wilson-Wilde Statement at p 9 [60]-[63].
212 First Dr Wilson-Wilde Statement at p 9 [64].
213 First Dr Wilson-Wilde Statement at p 9 [64] and Annexure LWW-10.
214 First Dr Wilson-Wilde Statement at p 9 [64] and Annexure LWW-12.

with the DNAIQ manual. Returning the finalised report to us tonight is fine'.[215] Two additional documents were then provided to Dr Wilson-Wilde.[216]

174. Dr Wilson-Wilde's evidence is that although she received the Project 13 Report on 18 October 2022, she did not review it until 20 October 2022.[217]

175. The final version of her report was supplied by Dr Wilson-Wilde at 10.30pm that day.[218]

176. There can be no question that the timing by which Dr Wilson-Wilde was to provide her report was short, nor that she was provided with a significant volume of material to review – being a suite of 148 documents, exceeding 9,000 pages.[219] Indeed, the period of time in which these interactions were occurring was described by Ms Veth (who was also asked to review thousands of documents), as '*intense*'.[220]

177. Notwithstanding Dr Wilson-Wilde's evidence regarding the significant volume of materials that she had been asked to review in a short period of time, it is not in dispute that she was briefed with, and reviewed, the Project 13 Report.[221]

178. ***Did Dr Wilson-Wilde identify the failures in the Project 13 Report?:*** It is not in dispute that in undertaking her review, Dr Wilson-Wilde identified at least '*some*' of the issues with the Project 13 Report.[222]

179. In her statement to this COI, Dr Wilson-Wilde states that there were '*issues with the DNA yield on the face of the draft Project 13 report*'.[223] In her oral evidence she accepted that it was readily and immediately apparent to her that the document was flawed.[224]

180. ***Did Dr Wilson-Wilde report adequately on the failures inherent in the Project 13 Report?:*** A question then arises as to whether Dr Wilson-Wilde adequately reported on the failings evident in the Project 13 Report to the First COI and, if not, why. This is because, as set out in paragraph [19] above, a suggestion has been made that by not drawing the First COI's attention to these matters, Dr Wilson-Wilde deliberately misled the First COI.

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215 First Dr Wilson-Wilde Statement at pp 9-10 [67] and Annexure LWW-12.
216 First Dr Wilson-Wilde Statement at pp 9-10 [67].
217 First Dr Wilson-Wilde Statement at p 11 [69] and [72].
218 First Dr Wilson-Wilde Statement at p 11 [69].
219 First Dr Wilson-Wilde Statement at p 11 [77]-[78].
220 COI Hearings, Day 2 (TRA.500.002.0001): T205.32-33.
221 First Dr Wilson-Wilde Statement at p 12 [80].
222 First Dr Wilson-Wilde Statement at p 17 [111].
223 First Dr Wilson-Wilde Statement at p 17 [113].
224 COI Hearings, Day 3 (TRA.500.003.0001): T256.43-47.

181. Dr Wilson-Wilde did refer to the Project 13 Report in her 20 October 2022 report, although her references were brief. At paragraph [31] she stated:[225]

> '*…this supports the contention that the verification of the automated platform method was insufficient to thoroughly test the impact of the larger volumes'* [used during the extraction process]

182. The following relevant (and limited) comment was then given:[226]

> '*…the verification of the automated method is not consistent with expected good practice*'.

183. In her statement to this COI, Dr Wilson-Wilde suggests that by the reference above she '*called out the report as a whole*' and that the phrase '*not consistent with expected good practice*' was '*science speak for* '*flawed'*.[227] Assertions to similar effect were made by her to journalists from *The Australian*. In two interviews on 31 August 2023, she stated that, variously, '*I thought the whole thing was rubbish'*,[228] the '*whole project was flawed from the beginning'*,[229] '*the entire project wasn't scientifically valid*'[230] and '*I called out the entire project from the title to the recommendations*'.[231]

184. It cannot be said that in providing her 20 October 2022 report Dr Wilson-Wilde drew attention to the low DNA yield obtained by the process being tested in the Project 13 Report, nor to the fact that the Project 13 Report's main conclusion was inconsistent with the data contained within it, nor to the consequences of a very low success in extracting DNA from samples.

185. When asked whether, with the benefit of reflection, she accepted that her statement '*my report deals with the whole project. I called out the entire project from the title to the recommendations*' was wrong, Dr Wilson-Wilde accepted that it was an overstatement, saying:[232]

> *'It's definitely an overstatement. I was, in my mind, referring to the sentence that the project wasn't – the whole validation wasn't consistent with good practice and that it should not have been a – it should have been a full validation, not a verification, those comments that I made in it are more general in nature, but I do concede that my report is largely – well, it is focused on the contamination issues'.*

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225 Dr Wilson-Wilde 20 October 2022 Report at [31].
226 Dr Wilson-Wilde 20 October 2022 Report at [25], [32].
227 First Dr Wilson-Wilde Statement at p 18 [117]; see also p 23 [147(e)].
228 Exhibit LAY.010.043.0001, Record of interview with *The Australian* on 31 August 2023 (record 1 of 2) at p 10 (**31 August 2023 Interview Part 1**).
229 Exhibit LAY.010.044.0001, Record of interview with *The Australian* on 31 August 2023 (record 2 of 2) at p 1.
230 31 August 2023 Interview Part 1 at p 2.
231 31 August 2023 Interview Part 1 at p 5.
232 COI Hearings, Day 3 (TRA.500.003.0001): T252.41-T253.6.

186. Dr Wilson-Wilde also accepted that, with the benefit of hindsight, *'perhaps I could have been clearer'*.[233] Notwithstanding that concession, she says that it was not her style to report on matters in this way, noting that there was a difference between talking to journalists versus writing a scientific report for a court matter. Her evidence is that the words she had used were '*an accepted way of phrasing a scientific opinion*',[234] and that she would '*not write a scientific report using emotive terminology*'.[235]

187. Dr Wilson-Wilde further says that she identified '*numerous*' issues with the Project 13 Report such that she thought it was '*more scientifically sound to raise an issue with the project and project report as a whole*'.[236]

188. A consideration of paragraphs [1108]-[1116] and [1136]-[1159] of the First COI Report provides further context for Dr Wilson-Wilde's evidence. That part of the First COI Report dealt with technical issues at the QHFSS Laboratory and their resolution. Under the heading the '*DNA IQ contamination event*', at paragraph [1111], the First COI Report stated that:

> '*The Commission procured Professor Linzi Wilson-Wilde OAM to consider whether the methods employed by the laboratory, both before and after the DNA IQ contamination arose, and the investigation undertaken by the laboratory were in accordance with best practice'.*

189. Under the heading '*Laboratory processes before, during and after the contamination event'* the First COI Report then referred to Dr Wilson-Wilde's evidence that use of the DNA IQ extraction methods and the implementation of those methods were not outside what would be considered good practice for a forensic DNA laboratory in 2008. However, the report went on to say that Dr Wilson-Wilde had found that '*the application of the method in an automated protocol may not have been sufficiently validated when originally implemented'* and that she had:[237]

> '*…noted the laboratory's commentary in its project report stated that, unlike other laboratories, the laboratory did not validate the automated DNA IQ protocol which came pre-loaded with the MPII, but, instead, validated a manual protocol and then verified an automated protocol based on the validated manual method.'*

190. The First COI Report stated that Dr Wilson-Wilde had concluded that '*verification was inadequate, rendering the laboratory's use of the automated DNA IQ method in 2008 inconsistent with best practice*'.[238] Matters relevant to contamination events and investigation were then referred to in that report,[239] including Dr

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233 COI Hearings, Day 3 (TRA.500.003.0001): T.253.41.
234 COI Hearings, Day 3 (TRA.500.003.0001): T257.30-.37.
235 COI Hearings, Day 3 (TRA.500.003.0001): T257.42-47; see also COI Hearings, Day 3 (TRA.500.003.0001): T258.44-45.
236 First Dr Wilson-Wilde Statement at p 22 [145].
237 First COI Report at p 359 [1137].
238 First COI Report at pp 359-360 [1136]-[1138].
239 First COI Report at pp 360-361 [1139]-[1143].

Wilson-Wilde's evidence that the volumes used for extraction were three times the amount used in the manufacturer's protocol and had not been sufficiently tested in the verification.[240]

191. The First COI Report then referred to Dr Wilson-Wilde's evidence under the heading '*Reliability and accuracy of results*', as follows:[241]

> '*Professor Wilson-Wilde found that the laboratory went through an appropriate process to determine which results were compromised and which results could be relied upon. She considered that, given the thoroughness of the work performed by the laboratory reviewing results, the results that were ultimately relied upon by the QPS and the courts could be considered reliable and accurate. Professor Wilson-Wilde did not find any significant failings that would indicate that the final results released were not reliable'.*

192. It is clear from Dr Wilson-Wilde's evidence in this COI that she considered her focus in writing the 20 October 2022 report to be on what she deemed the '*contamination issue*', stating that she wrote her report '*very much for the task that was at hand*'.[242] In oral evidence she said:[243]

> '*I answered this question in terms of the contamination issue. That was my focus and I – whilst I noted other matters, I didn't raise them in the report because I focused the report on what was being asked – or what I felt was being asked.'*

193. In her evidence to this COI, Dr Wilson-Wilde also notes that the Project 13 Report was a draft, containing parts that were not finalised,[244] and says that because she was tasked with looking at the contamination issue, she was not provided with the project proposal or any project design information and as such felt it was '*very hard to provide detailed commentary with a scientific basis on the project results*'.[245] Her evidence is that in order for her to have commented further, she would have required the project proposals (including the project design information), the data obtained and analysed during the project and DNA profile results.[246] She further notes that, from the documents provided to her, she understood that the extraction method had changed since Project 13 had been implemented, and that on the face of the brief, the method that was implemented in 2009 had improved the DNA yield issue.[247]

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240 First COI Report at pp 359-360 [1138].
241 First COI Report at p 361 [1145].
242 COI Hearings, Day 3 (TRA.500.003.0001): T255.25-41; First Dr Wilson-Wilde Statement at p 12 [79], p 17 [114] and p 23 [147(e)].
243 COI Hearings, Day 3 (TRA.500.003.0001): T253.24-28.
244 First Dr Wilson-Wilde Statement at p 12 [81].
245 First Dr Wilson-Wilde Statement at p 18 [118].
246 First Dr Wilson-Wilde Statement at p 18 [119].
247 First Dr Wilson-Wilde Statement at p 18 [120].

194. Noting the matters in paragraphs [192] and [193] above, it is perhaps not surprising that Dr Wilson-Wilde's comments on the Project 13 Report were limited.

195. Dr Wilson-Wilde's statement in paragraph [71] of her 20 October 2022 report that: '*I did not find any significant failings that would indicate that the final results released were not reliable*',[248] needs to be read in light of the question to which she was responding in that portion of the report, namely whether DNA profiles obtained by the QHFSS Laboratory were reliable and accurate.[249]

196. ***Did Dr Wilson-Wilde otherwise inform the First COI of the Project 13 failures?:*** A further question arises as to whether Dr Wilson-Wilde informed anyone, and in particular Ms Hedge, of the failures evident in the Project 13 Report. In her evidence to this COI, Dr Wilson-Wilde initially suggested that she had a discussion with Ms Hedge about Project 13 where she informed Ms Hedge that:
    (a) the change to a fully automated extraction was a significant change to have occurred at that time and should have been fully validated;
    (b) there was a difference in yield between the automated and manual extraction methods in Project 13, which was greater than expected, and
    (c) she believed that this was possibly due to issues with the automated lysis step, and that the issue may have been somewhat addressed with a return to manual lysis in 2009.[250]

197. Dr Wilson-Wilde could not remember when this discussion occurred, noting that she did not review the Project 13 Report until the evening of 20 October.[251] She suggests that there may have been an '*unscheduled communication*' that occurred when this conversation happened but that given the timeframe, she cannot '*exclude the possibility that a conversation occurred after the provision of the final report*'.[252]

198. In her evidence to this COI, Ms Hedge says that Dr Wilson-Wilde had explained to her the contents of what became paragraph [32] of her final report and took her through various parts of the Project 13 Report.[253] Ms Hedge does not remember having any conversation or conference with Dr Wilson-Wilde dealing with any difference in the '*quantity of DNA extracted by the manual and automated extraction procedures between 2007 and 2022*'.[254]

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248 Dr Wilson-Wilde 20 October 2022 Report at [71].
249 Dr Wilson-Wilde 20 October 2022 Report at Appendix 1 [8](b)(4)(ii).
250 First Dr Wilson-Wilde Statement at p 11 [70].
251 First Dr Wilson-Wilde Statement at p 11 [72].
252 First Dr Wilson-Wilde Statement at p 11 [74]-[75].
253 First Hedge Statement at p 5 [24]; Second Hedge Statement at p 2 [10].
254 First Hedge Statement at p 8 [40].

199. After reviewing Dr Wilson-Wilde's statement, Ms Hedge gave a further statement to the COI which stated that she has no independent recollection of the discussion Dr Wilson-Wilde referred to (see paragraph [196] above), but that if such a discussion had occurred, she expected that it would have occurred before the final report was received on 20 October 2022.[255] As to the matters in (a), (b) and (c) in paragraph [196] above, Ms Hedge states that:[256]

(a) with respect to the matters in (a), to the best of her recollection she was aware that Dr Wilson-Wilde held this view in October 2022 but did not recall whether that knowledge came from her earlier discussions with Dr Wilson-Wilde or from her 20 October 2022 report; and

(b) with respect to the matters in (b) and (c), she has no independent recollection of Dr Wilson-Wilde informing her of those matters, or of knowing that Dr Wilson-Wilde held those views in October 2022. She states:

> '*I cannot definitely state that Adjunct Professor Wilson-Wilde did not tell me these matters but my best recollection is that she did not. If I had understood Professor Wilson-Wilde was telling me about a significant or systemic issue which might have called into question the reliability of results, I would have taken steps to investigate it.*'

200. Nonetheless, in Ms Hedge's view, the report that Dr Wilson-Wilde had been asked to prepare appropriately addressed the First COI's instructions in relation to the topic of '*DNA IQ contamination'* and she did not expect Dr Wilson-Wilde to identify every problem with every document with which she was briefed.[257]

201. In her oral evidence before this COI, Dr Wilson-Wilde accepts that her memory of these interactions with Ms Hedge is limited and says that after reviewing Ms Hedge's evidence, she may have been mistaken as to the nature of her discussions. Her oral evidence is that:

(a) she has a memory of discussing Project 13 and looking at figures 9 to 12, but is not sure when that discussion occurred or with whom;[258]

(b) she has a recollection of saying that there was a difference in the yield;[259]

(c) that discussion was in '*high level details'*;[260] and

(d) she knows in her '*head that I was thinking about…those results…I appreciate I have no recollection of whether I said any of that*'.[261]

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255 Second Hedge Statement at p 2 [11(a)].
256 Second Hedge Statement at pp 2-3 [11(b)-(c)].
257 Second Hedge Statement at p 3 [11(d)].
258 COI Hearings, Day 3 (TRA.500.003.0001): T253.14-27.
259 COI Hearings, Day 3 (TRA.500.003.0001): T235.41-43.
260 COI Hearings, Day 3 (TRA.500.003.0001): T236.6-9.
261 COI Hearings, Day 3 (TRA.500.003.0001): T240.39-47.

202. On 6 November 2023, Dr Wilson-Wilde was issued with a Notice to Produce Documents and a Notice to Give Information in a Written Statement concerning notes she made in relation to the Project 13 Report, which were referred to by her in the transcript of an interview with journalists from *The Australian* on 8 September 2023.[262] On 7 November 2023, Dr Wilson-Wilde produced documents and a statement in response to both Notices.[263] Dr Wilson-Wilde advised, through her representatives, that: [264] *(i)* the '*notes*' she was referring to in the interview with *The Australian* were notes made on the methods/SOPs 24897v1-5,[265] change register,[266] and the statements of Ms Allen, Mr Howes, Mr McNevin and Mr Nurthen;[267] *(ii)* she does not believe that she looked at any of these documents in detail and that it was more of a cursory look to familiarise herself with the work; *(iii)* the notes made on the abovementioned documents (if any) were made in 2022 at or around the time she provided her 20 October 2022 report to the First COI; *(iv)* in the interview she was not referring to the validation documents (that is, the reports of Projects 9, 11, 13, 21 or 22) as these do not contain the information around what or when changes were made to the methods; *(v)* she believes the notes written on the validation documents provided on 7 November 2023 (including the Project 13 Report) were made in 2023; *(vi)* she cannot recall when in 2023 she wrote those notes, although some of the notes were written in preparation for this COI.

203. I consider that the documents produced by Dr Wilson-Wilde, and her explanations, do not detract from, or add to, her oral evidence.

204. Dr Wilson-Wilde may well have had the problems with the Project 13 Report in her mind when she spoke with Ms Hedge, but the evidence does not establish that she expressed those matters in a way that conveyed that they were a separate, important, issue. It can be inferred that, had Ms Hedge's attention been drawn to these issues, further inquiry would have resulted. Had Ms Hedge's attention been drawn to the consequences of an inadequate DNA extraction method in place at the QHFSS Laboratory, and the impact on the capacity to obtain results for forensic purposes, there can be no doubt that the First COI would have pursued this topic with further inquiries.

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[262] Exhibit LAY.010.042.0001, Record of interview with The Australian on 8 September 2023, where the reference to 'notes' is in the first paragraph for "LWW" on p 6 of the transcript.
[263] The documents were produced under cover of a letter from Ashurst to the COI dated 7 November 2023 – Exhibit MSC.010.036.0001 (**Ashurst Letter**).
[264] See Exhibit MSC.010.069.0001, Email from Ashurst on behalf of Dr Linzi Wilson-Wilde to the COI dated 8 November 2023.
[265] Documents 19-22 in the Ashurst Letter, with version 5 of SOP 24897 with handwritten notes (Exhibits MSC.010.055.0001, MSC.010.056.0001, MSC.010.057.0001 and MSC.010.058.0001).
[266] Exhibit MSC.010.045.0001, Change Register – Notes made on document WIT.0016.0188.0553 (Document 9 in the Ashurst Letter).
[267] Documents 24-27 in the Ashurst Letter (Exhibits MSC.010.060.0001, MSC.010.061.0001, MSC.010.062.0001 and MSC.010.063.0001).

205. There is, similarly, no evidence before the COI to support a conclusion that any other expert raised the issues with the Project 13 Report with the First COI, or that Dr Wilson-Wilde was aware of them doing so. In her evidence to this COI, Dr Wilson-Wilde suggests that yield issues were raised by Dr Budowle in his report dated 15 September 2022, which was sent to her on 20 September 2022,[268] and that DNA yield was also raised by Dr Budowle, Ms Veth and Dr Wright in their reports regarding the Blackburn samples.[269]

206. The actual scope of that other expert evidence is evident from paragraphs [1147]-[1149] of the First COI Report, as reproduced in paragraph [48] above, which set out that Dr Budowle and Ms Veth had drawn attention to the low quantitation results, and that Ms Veth '*suspected there might have been an issue with the extraction of DNA from batches that were processed containing the Blackburn case samples*'.[270] Ms Veth and Dr Budowle had requested further data to assess whether this problem was reflected over a longer period.[271] With those data, Dr Budowle, Ms Veth and Dr Wright had '*identified an anomaly between the quantitation results for positive controls obtained from extractions completed on the MultiProbe II instrument compared to the results obtained from batches processed on the Maxwell instrument*'.[272] In the time available, the experts were unable to determine what was causing the difference in results but the data suggested that '*DNA was not being recovered optimally using the MultiProbe II extraction method*'.[273]

207. The First COI Report then raised the concern that other samples over the two year data set examined by those experts may have also been sub-optimal and that Ms Veth expressed the view that the quantitation data over positive controls should be reviewed over a longer period of time.[274]

208. Accordingly, while Dr Wilson-Wilde is correct that questions of DNA yield were raised by other experts, this was only in short compass and not in the context of the Project 13 Report.[275] There is no evidence that Dr Wilson-Wilde was aware of this issue having been the subject of a report to the First COI prior to her 20 October 2022 Report. Indeed, Dr Budowle stated that he had not been given the Project 13 Report at the time of the First COI.[276]

Conclusions on Dr Wilson-Wilde's review of the Project 13 Report

209. In providing expert evidence to the First COI, Dr Wilson-Wilde reviewed the Project 13 Report and says that, upon doing so, she identified the issues with the DNA yield that were apparent on the face of that

[268] First Dr Wilson-Wilde Statement at p 14 [97].
[269] First Dr Wilson-Wilde Statement at p 14 [100].
[270] First COI Report at p 362 [1147].
[271] First COI Report at p 362 [1148].
[272] First COI Report at p 363 [1149].
[273] First COI Report at p 363 [1152].
[274] First COI Report at p 365 [1159].
[275] First COI Report at p 362 [1147].
[276] Dr Budowle Statement at p 3 [4]. See also COI Hearings, Day 2 (TRA.500.002.0001): T152.3.

report.[277] However, nowhere in her 20 October 2022 report did Dr Wilson-Wilde report that the manual or automated extraction or hybrid manual/automated extraction methods as discussed in the Project 13 Report, or used in the time frame that the Project 13 Report purported to cover, disclosed a problem with DNA yield or extraction. What she did do was to identify that *'the verification of the automated method is not consistent with expected good practice'*.[278] That did not draw attention to poor DNA yield nor to the consequences of a failure to extract sufficient DNA for subsequent testing. Thus, the First COI was not alerted to, and so did not investigate, the fundamental problem of insufficient DNA being extracted from samples by the Automated DNA IQ Method used with the MultiProbe Device. This could well have also provided greater insight into the observations of Ms Veth and Dr Budowle as to low yields of DNA observed in the case of Shandee Blackburn. One consequence of this failure was the need for this further COI, before there was an appreciation that all of the affected samples needed to be re-tested.

210. I consider that:

(a) in her 20 October 2022 report Dr Wilson-Wilde raised the issue of a lack of proper validation and verification of the automated protocol and, specifically, of the Automated DNA IQ Method in the Project 13 Report;

(b) Dr Wilson-Wilde's report was directed to the contamination issue and, therefore, that raising of validation and verification would not have been understood to raise the issue of problems with the DNA yield on extraction; and

(c) a reference by her to the greater extraction volume was in the context of contamination, not DNA recovery.

211. As to whether Dr Wilson-Wilde informed the First COI of these matters other than in her 20 October 2022 report, on the evidence before the COI, Dr Wilson-Wilde either did not mention the yield issues evident in the Project 13 Report to junior counsel assisting the First COI or, if she did, it was not done in a manner sufficient to gain counsel's attention nor to suggest that further investigation was warranted.

212. There is no evidence before this COI to properly support a conclusion that the fact that Dr Wilson-Wilde did not advert specifically to the yield issues in the Project 13 Report amounted to a deliberate decision to mislead the First COI, nor did she have a reason to do so.

[277] First Dr Wilson-Wilde Statement at p 17 [113].
[278] Dr Wilson-Wilde 20 October 2022 Report at [32].

H. WORK UNDERTAKEN BY FSQ AND THE INTERIM FSQ ADVISORY BOARD SINCE THE FIRST COI REPORT

213. ***Background:*** The steps which have taken place since the First COI Report was handed down in December 2022 are relevant to this COI insofar as they may affect recommendations, and the implementation of recommendations, concerning Project 13.

214. Public statements and other documents in relation to Project 13 are referred to in the Terms of Reference. In the same way, those statements may reflect not only on Project 13 and the evidence to the First COI but also on the capacity of Dr Wilson-Wilde to perform the role of CEO of FSQ and to implement the First COI Recommendations and the recommendations of this COI.

215. Dr Wilson-Wilde was appointed as CEO of FSQ commencing on 16 January 2023[279] and was tasked with re-building the Laboratory and implementing the First COI Recommendations.

216. In compliance with the First COI Recommendations, an Interim FSQ Advisory Board was established, which provides an advisory role to the CEO of FSQ, the staff of Queensland Health, and to FSQ itself.[280] As earlier mentioned, the co-chairs of the Interim FSQ Advisory Board are Mr Sofronoff and Ms Dick.

217. The interim FSQ Advisory Board has established three Sub-Committees to oversee specific aspects of the FSQ Laboratory. These are:
    (a) the Forensic Medical Examinations Advisory Sub-Committee;
    (b) the Forensic Justice Advisory Sub-Committee; and
    (c) the Forensic Biology Advisory Sub-Committee.

218. Each Sub-Committee comprises people from a broad range of organisations and interest groups and includes a range of experts from a variety of institutions, including some interstate experts.

219. ***The FSQ CEO's responsibilities:*** Queensland Health issued a 'Duty Statement' for the CEO of FSQ, approved by the Acting Director-General on 14 December 2022 (**Duty Statement**).[281] The CEO is responsible for the day-to-day operations of FSQ as well as the implementation of the First COI Recommendations.[282] The Duty Statement states that the CEO is accountable to the interim FSQ Advisory Board and is to report directly to Queensland Health's CEO.

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279 First Dr Wilson-Wilde Statement at p 1 [7].
280 See Exhibit MSC.010.070.0001, Interim FSQ Advisory Board Terms of Reference dated May 2023.
281 Exhibit QHC.7000.0006.0001, Duty Statement – Chief Executive Officer, Forensic Science Queensland (**Duty Statement**).
282 Duty Statement at p 2.

220. The stipulated key responsibilities of the CEO include:[283]

(a) leading the design and implementation of fit-for-purpose organisational and operating arrangements;

(b) actively engaging with the interim FSQ Advisory Board and Sub-Committees on strategic directions;

(c) ensuring that forensic services are best practice in terms of being contemporary in nature and high quality in efficiency and delivery;

(d) ensuring that FSQ and its personnel appropriately assist Queensland Health to deliver on all commitments made by the Queensland Government or Queensland Health regarding findings and/or recommendations made by the First COI;

(e) ensuring a collegiate and ongoing relationship is fostered with the relevant external stakeholders within the criminal justice system, and with internal stakeholders, such as the Queensland Health Taskforce; and

(f) leading and motivating a high performing managerial team, as well as driving the development of a positive workplace and workforce culture.

221. It is clear from the above that the CEO's performance is to be closely monitored and measured by the interim FSQ Advisory Board as well as by Queensland Health.[284]

222. ***Dr Wilson-Wilde's progress at FSQ since January 2023:*** Dr Wilson-Wilde provided written evidence detailing the reforms that she has either instituted or intends to institute in the FSQ Laboratory since her appointment in January this year.[285] She also gave oral evidence to the Commission in respect of those reforms.[286]

223. The evidence before this COI describes significant changes that have taken place, and are in progress, at FSQ since January.

224. The major actions taken and reforms implemented by Dr Wilson-Wilde and FSQ include:

(a) a 'deep dive' into the Laboratory's processes,[287] which entailed three independent in-depth reviews conducted by interstate experts of the current Evidence Recovery, DNA Analysis, Illicit Drug Analysis and Clandestine Laboratory Analysis services. Those reviews included a review of the facilities, validations, methods, and procedures of the Laboratory;[288]

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283 Duty Statement at p 1.
284 See also Written submissions of State of Queensland (through Queensland Health) dated 2 November 2023 at [24].
285 First Dr Wilson-Wilde Statement at pp 1-6 [7]-[41] and pp 26-27 [165]-[168].
286 COI Hearings, Day 2 (TRA.500.002.0001): T207.27-T211.20, T212.23-34, T214.29-38, T218.13-T219.21 and T222.22-T224.3; COI Hearings, Day 3 (TRA.500.003.0001): T230.19-T232.30 and T234.28-T235.3.
287 COI Hearings, Day 2 (TRA.500.002.0001): T208.38-39.
288 First Dr Wilson-Wilde Statement at p 2 [11]; COI Hearings, Day 2 (TRA.500.002.0001): T208.34-46.

(b) the intensive training of FSQ scientists in DNA interpretation, which was carried out by independent overseas experts, and an overhaul of the Laboratory's DNA interpretation guidelines;[289]

(c) the establishment of a new Leadership Group within FSQ (which includes a manager of innovation, a manager of quality, and a manager of forensic biology[290]); and the development and implementation of a leadership training program;[291]

(d) the development of a 'new project' framework which involves a robust project proposal and approval process prior to the implementation of projects, including the requirement for final sign-off by the management team and an independent interstate expert;[292]

(e) the revision and implementation of a new process for conducting validations; the development of a detailed validation guideline; and ensuring that FSQ has appropriate validation documents for all of its current methods;[293] and

(f) the introduction of a number of mechanisms to support the development of a positive culture (including hiring a director of wellbeing and culture and a clinical psychologist[294]), transparent management communication and reporting, and the ability for staff to raise issues (including a CEO drop-in session[295]) and engage in robust scientific discussion in a safe environment.[296]

225. Dr Wilson-Wilde gives evidence that her priority upon commencement as CEO was to ensure that current processes and methods meant that current results being released to the QPS and ODPP are accurate and reliable. Earlier this year she commenced a high-level gap analysis of the validations in place for the current Evidence Recovery processes.[297]

226. Dr Wilson-Wilde also emphasises her efforts to encourage stakeholder engagement with the QPS, the ODPP, and the Courts.[298]

227. Dr Wilson-Wilde says that, under her direction, FSQ is reviewing the Forensic Chemistry validations, methods, and procedures.[299]

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289 First Dr Wilson-Wilde Statement at p 2 [11]; COI Hearings, Day 2 (TRA.500.002.0001): T207.37-208.8.
290 COI Hearings, Day 2 (TRA.500.002.0001): T209.7-8.
291 First Dr Wilson-Wilde Statement at p 2 [11] and [16]; T208.14-18.
292 First Dr Wilson-Wilde Statement at p 2 [11]; COI Hearings, Day 2 (TRA.500.002.0001): T209.12-26.
293 First Dr Wilson-Wilde Statement at p 3 [18]; COI Hearings, Day 2 (TRA.500.002.0001): T208.26-32.
294 COI Hearings, Day 2 (TRA.500.002.0001): T212.212.29-30.
295 COI Hearings, Day 2 (TRA.500.002.0001): T22.38.
296 First Dr Wilson-Wilde Statement at p 2 [11]; COI Hearings, Day 2 (TRA.500.002.0001): T222.32-T223.6.
297 First Dr Wilson-Wilde Statement at p 3 [17]; COI Hearings, Day 2 (TRA.500.002.0001): T207.27-35.
298 COI Hearings, Day 2 (TRA.500.002.0001): T210.3-7.
299 First Dr Wilson-Wilde Statement at p 3 [20].

228. Her evidence is that she has commenced the procurement of new extraction robots[300] and has plans to research and validate new methods such as Y-STR[301] testing, which is currently being outsourced.[302]

229. Dr Wilson-Wilde notes that, with the establishment of an innovation team, the FSQ Laboratory intends to develop relationships with other laboratories and universities to ensure an exchange of research and ideas and to keep up-to-date with developments.[303]

230. She also notes that FSQ has been able to secure additional funding from the Queensland Government.[304]

231. In evidence, Dr Wilson-Wilde accepted that there have been problems arising from the imprecise or inconsistent use of language in the Laboratory, which is discussed at paragraph [145] above.[305] She notes, in that regard, that the innovation manager is currently developing an SOP for validation which addresses some of those concerns, particularly those related to standardised formatting.[306]

232. In response to concerns raised during the course of her oral evidence, to the effect that it is necessary that scientists take personal responsibility, Dr Wilson-Wilde acknowledges that this kind of cultural shift would be a *'longer journey*,'[307] but says that she is *'confident we'll get there'*.[308]

233. Dr Wilson-Wilde's evidence is that she is of the opinion that the changes made at FSQ have resulted in *'substantial changes to the methods, culture, quality, innovation and therefore the provision of results to the justice system'*.[309] Dr Wilson-Wilde observes that, generally, *'cultural change is a long [journey]'.*[310]

234. Dr Budowle and Ms Veth were asked to give their opinion of the changes being made and proposed as set out by Dr Wilson-Wilde. In Dr Budowle's opinion, the steps taken by Dr Wilson-Wilde are '*commensurate with the recommendations'.*[311] Dr Budowle calls it a *'Herculean effort'*[312] and says that '*many of the things she has outlined… are spot on.'*[313] Dr Budowle notes that *'it's much harder to rebuild a lab that has a culture*

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300 First Dr Wilson-Wilde Statement at p 6 [40].
301 Y-STR testing explicitly targets STR regions on the male Y chromosome that is passed down through the paternal lineage (i.e., father to son). By specifically targeting the Y-chromosome, a Y-STR profile can be unmasked in the presence of female DNA.
302 First Dr Wilson-Wilde Statement at p 6 [41]; COI Hearings, Day 2 (TRA.500.002.0001): T219.1-5.
303 COI Hearings, Day 2 (TRA.500.002.0001): T218.13-28 and T219.17-21.
304 COI Hearings, Day 2 (TRA.500.002.0001): T208.20-21.
305 COI Hearings, Day 2 (TRA.500.002.0001): T222.4-30.
306 COI Hearings, Day 2 (TRA.500.002.0001): T222.23-25.
307 COI Hearings, Day 3 (TRA.500.003.0001): T233.46-47.
308 COI Hearings, Day 3 (TRA.500.003.0001): T233.47.
309 First Dr Wilson-Wilde Statement at p 3 [21].
310 COI Hearings, Day 2 (TRA.500.002.0001): T223.30-32.
311 COI Hearings, Day 2 (TRA.500.002.0001): T211.33-34.
312 COI Hearings, Day 2 (TRA.500.002.0001): T211.33.
313 COI Hearings, Day 2 (TRA.500.002.0001): T211.38-39.

issue and a quality issue than to start a lab from scratch, or to take over a lab that is functioning well… so she has a real challenge'.[314]

235. Ms Veth's evidence is that re-building the Laboratory *'is an enormous task'*[315] and says *'frankly, I'm surprised at what [Dr Wilson-Wilde] has already been able to accomplish so far'*.[316] Her view is that the *'projects [Dr Wilson-Wilde] has identified seem appropriate, given what came out of the [First COI]'.*[317]

236. Dr Wright agreed that the task of re-building the Laboratory is an *'enormous amount of work'*[318] and that it would take *'many, many years to do the technical side of it, but also the cultural side of it'*.[319] She also notes that the Laboratory would face *'competing priorities'*.[320]

237. ***Evidence with respect to the performance of the FSQ CEO and FSQ's implementation of the First COI Recommendations to date – Progress of the implementation of the First COI Recommendations in general:*** Dr Wilson-Wilde's evidence is that under her leadership, FSQ has implemented 39 of the First COI Recommendations, and a further 62 of the First COI Recommendations are currently in progress.[321] Other available evidence from Queensland Health, which, as well as the interim FSQ Advisory Board, monitors the detail of the ongoing implementation of the First COI Recommendations by FSQ, supports the steps taken to implement certain of those recommendations, albeit that the times for those implementations have been necessarily extended.[322]

238. Dr Wilson-Wilde has given evidence that she intends to implement reforms to the FSQ Laboratory that not only address, but also go beyond, the 123 Recommendations made by the First COI.[323] For example, Dr Wilson-Wilde's evidence is that FSQ has taken the changes and improvements to the quality system and validation requirements for particular methods a step further than the reforms set out in the First COI Report.[324]

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314 COI Hearings, Day 2 (TRA.500.002.0001): T211.34-38.
315 COI Hearings, Day 2 (TRA.500.002.0001): T212.11.
316 COI Hearings, Day 2 (TRA.500.002.0001): T212.12-13.
317 COI Hearings, Day 2 (TRA.500.002.0001): T212.15-16.
318 COI Hearings, Day 2 (TRA.500.002.0001): T213.1.
319 COI Hearings, Day 2 (TRA.500.002.0001): T213.1-3.
320 COI Hearings, Day 2 (TRA.500.002.0001): T213.5-6.
321 First Dr Wilson-Wilde Statement at p 2 [13].
322 Exhibit QHC.7000.0006.0003, First COI Recommendation Implementation update reports produced by Queensland Health dated March 2023 and Exhibit QHC.7000.0006.0028, First COI Recommendation Implementation update reports produced by Queensland Health dated April 2023.
323 First Dr Wilson-Wilde Statement at p 2 [12].
324 First Dr Wilson-Wilde Statement at p 2 [13].

239. Dr Wilson-Wilde's evidence of the reforms undertaken is supported by the evidence of the interim FSQ Advisory Board and also by FSQ management and scientists.

240. The evidence of Ms Dick is that the implemented and intended reforms described by Dr Wilson-Wilde in her statement to the COI reflect Ms Dick's understanding of the current practices undertaken at FSQ and of the steps that will be taken.[325]

241. ***Evidence from current FSQ management and scientists:*** The COI received three statements from a combination of FSQ management and scientists, endorsing Dr Wilson-Wilde's performance to date as CEO of FSQ.

242. *First*, a submission to the COI dated 25 October 2023 was jointly signed by members of the FSQ Leadership Team, being Brett Scott (Manager of Quality), Dr Jeremy Watherston (Manager of Innovation) and Natasha Mitchell (Manager of Forensic Biology) (**FSQ Leadership Team Submission**).

243. The FSQ Leadership Team Submission includes the following:[326]

> *'Since our commencement, Professor Linzi Wilson-Wilde has made it clear that the review of current practices at FSQ shall extend beyond the recommendations provided by the 2022 Commission of Inquiry into Forensic DNA Testing in Queensland (COI). Whilst we continue to assess and seek to understand the full extent of the workings of the Laboratory, we have identified multiple fundamental deficiencies and are progressively working to address these. Prof. Wilson-Wilde readily seeks our authoritative advice and enables us to be effective leaders, encouraging us to challenge the status quo. In her messaging to staff, Prof. Wilson-Wilde has consistently conveyed that we are striving to create a culture of transparency and continuous improvement at FSQ.'*

244. The FSQ Leadership Team further comments on Dr Wilson-Wilde's *'responsive leadership style which is focussed* (sic) *on empowering our staff to develop our laboratory into a world class facility*'.[327]

245. *Secondly*, the statement dated 27 October 2023 of Mr Rhys Parry, who holds the position of senior scientist in the Forensic Biology Division of FSQ. Annexed to Mr Parry's statement is a joint statement made by current FSQ scientists Mr Parry, Emma Caunt, Dr Ingrid Moller, Alicia Quartermain, Kylie Rika and Angelina

[325] First Dick SC Statement at p 2 [13].
[326] FSQ Leadership Team Submission at p 1.
[327] FSQ Leadership Team Submission at p 2.

Keller, all of whom also worked under the previous QHFSS management.[328] In that joint statement, the scientists relevantly make the following observations:

a. *'We are more confident than at any time in the past that we are in a position to raise concerns and freely discuss differences of scientific opinion in an appropriate format'.*[329]

b. *'…[w]e… have found Professor Wilson-Wilde to be very open and responsive to meaningful scientific discussions when differences of scientific opinion have arisen, and [she] often speaks on the critical importance of diversity of thought in our all-staff meetings'.*[330]

c. The required changes as recommended by the First COI Report *'are now being implemented under the direction and guidance of Professor Wilson-Wilde, whose goal and focus, in our opinion and observation, is to strive for best scientific practice. Since the arrival of Professor Wilson-Wilde, many of the recommended changes have been finalised or are in the process of being implemented'.*[331]

d. *'The COI Recommendations set the roadmap to reform our laboratory from the ground up, and under new leadership Forensic Science Queensland is going beyond the recommendations to review all current and past practices to identify and address any affected cases. We are heartened to know that these actions are already having a positive impact on the justice system, and we feel confident that we are now in an environment in which we can raise scientific concerns and be supported to achieve sound resolutions. With Professor Wilson-Wilde's leadership and scientific expertise, and the support of the broader FSQ leadership team, we remain focused on helping to develop our laboratory into a world class facility for Queensland'.*[332]

246. *Thirdly*, there is also evidence before the COI from Amanda Reeves, who has been a long-term employee in the Forensic DNA Analysis section of Queensland Health, and is now employed as Executive Advisor to Dr Wilson-Wilde. Ms Reeves' evidence relevantly includes the following observations:[333]

21. As a long-term employee of QH, and repeat whistleblower, my position is that:

a. Prior to my return to FSQ in February 2023, I had never met nor worked with Prof W-W.

b. I have confidence in the direction that Prof Wilson-Wilde is taking the laboratory.

c. My current assessment is that the new governance framework and revitalised leadership team is more than adequate to allow for Recommendations and any other associated matters to be implemented and for historical casework to be addressed.

328 Parry Statement at Annexure RP-1.
329 Parry Statement at Annexure RP-1, p 1.
330 Parry Statement at Annexure RP-1, p 1.
331 Parry Statement at Annexure RP-1, p 1.
332 Parry Statement at Annexure RP-1, p 2.
333 First Reeves Statement at pp 16-17.

247. In respect of the implementation of First COI Recommendations Ms Reeves says in her statement:[334]

23. It is my experience from working closely with [Dr] Wilson-Wilde that when the lab identifies any scientific quality issues with its processes or methodology, a proactive and measured approach is taken towards achieving an appropriate resolution.

24. If a situation were ever to arise where issues were identified and there was no apparent intention by the lab to address or investigate these issues, I would, as I have always done in the past, escalate my concerns via the proper channels.

…

26. In my opinions (sic), *the cultural and leadership problems in the lab that enabled Project 13 to become a problem are no longer present in the lab today.*

248. An endorsement in similar terms was given by Ms Hannah Jarman, who is an Executive Advisor to Dr Wilson-Wilde.[335]

249. Of particular note is the fact that Mr Parry, Ms Caunt, Ms Moller, Ms Quartermain, Ms Rika, Ms Keller and Ms Reeves all gave evidence in the First COI that was critical of the management of QHFSS and outlined the serious problems at, and failings of, the Laboratory.[336] This gives added weight to their endorsement in this COI of the current CEO and her leadership of FSQ.

250. The evidence from Dr Wilson-Wilde, Ms Dick and the scientists currently working at FSQ was not contradicted by any evidence before this Commission. Her competence, capacity and integrity in the fulfilment of her role as CEO of FSQ is also supported by Queensland Health.[337]

251. ***Recommendation 105*****:** *Recommendation 105* is set out at paragraph [49] above.

252. The evidence establishes that Dr Wilson-Wilde will now take steps to address the problems associated with the Automated DNA IQ Method. A recommendation was recently proposed on 7 September 2023 by Dr Wilson-Wilde that all serious cases between October 2007 and July 2008 be reviewed.[338] Dr Wilson-Wilde accepts that until the media raised issues regarding Project 13 she had not prepared a paper or other documentation which might provide such a recommendation.[339] Indeed, she candidly acknowledges that the only reason why such a paper had been prepared was because she had been prompted by reason of an interview with journalists from *The Australian*.[340]

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334 First Reeves Statement at pp 17-18.
335 Jarman Statement.
336 See e.g., First COI Report at p v-vi [9].
337 Written submissions of State of Queensland (through Queensland Health) dated 2 November 2023 at [23] and [24].
338 Draft Forensic Justice Advisory Sub-Committee Minutes (7.9.23).
339 COI Hearings, Day 3 (TRA.500.003.0001): T261.17-40.
340 COI Hearings, Day 3 (TRA.500.003.0001): T261.35-40.

253. The plan that Dr Wilson-Wilde has developed for a review of historical cases, and the timing of such review, is to be understood in the context of her evidence that since she commenced in her new role, her focus had been on ensuring that the current methods used by the FSQ Laboratory are fit for purpose, and on setting up the necessary infrastructure. She also says that implementing Recommendation 105 from the First COI meant that her team was going to go back through '*that work anyway*'.[341] She accepted in her oral evidence that re-testing of samples going back to the introduction of the Automated DNA IQ Method was required, including in order to provide confidence to the public that the issue is being looked at.[342]

254. In the context of Recommendation 105, Dr Wilson-Wilde agrees that where re-testing or re-analysing samples occurs, it must be done on the original DNA samples, rather than on the extracted DNA. Dr Wilson-Wilde agrees that the methods of re-testing of samples would be the '*optimal method for the substrate and the biological material*'[343] in order to *'maximise DNA recovery*'.[344] As to the time frame, in her oral evidence, Dr Wilson-Wilde proffered a time from the present back to October 2007.[345] She says that she would now be advocating that the FSQ Laboratory go back from the beginning of this year to October 2007, with '*all cases encompassing*'.[346]

255. Queensland Health is supportive of the review process as advanced by Dr Wilson-Wilde and is of the opinion that it *'falls within the scope of recommendation 105'*.[347]

256. ***Conflicts of interest – Ms Dick's evidence:*** Ms Dick states that the interim FSQ Advisory Board is '*fully cognisant of, and alive to, potential conflicts of interest that may arise as between the members of the FSQ Advisory Board on the one hand, and, on the other hand, as between the members of the FSQ Advisory Board and the CEO of the FSQ'*.[348]

257. Indeed, she observes that the first item on the agenda at every meeting of the interim FSQ Advisory Board is a conflicts of interest check[349] and that where a conflict of interest is present it is declared. There have been such declarations and, to date, no conflicts have required further action.[350]

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341 COI Hearings, Day 3 (TRA.500.003.0001): T262.5-6.
342 COI Hearings, Day 3 (TRA.500.003.0001): T262.1-10.
343 COI Hearings, Day 2 (TRA.500.002.0001): T217.39-40.
344 COI Hearings, Day 2 (TRA.500.002.0001): T218.2.
345 COI Hearings, Day 3 (TRA.500.003.0001): T262.35-38.
346 COI Hearings, Day 3 (TRA.500.003.0001): T262.30-38.
347 Written submissions of Queensland Health dated 2 November 2023 at [19].
348 First Dick SC Statement at p 1 [9].
349 First Dick SC Statement at p 1 [10].
350 First Dick SC Statement at p 1 [4]-[5].

258. This evidence, together with evidence of the membership of the interim FSQ Advisory Board and its Sub-Committees, suggests that an issue about conflicts of interest requires no further consideration.[351]

259. ***Dr Wright's concerns with respect to conflicts of interest:*** Dr Wright raised concerns in the media about a potential conflict of interest between members of the interim FSQ Advisory Board, on the one hand, and between the interim FSQ Advisory Board and Dr Wilson-Wilde, on the other hand.[352]

260. In her evidence before this COI, Dr Wright maintains that, while she accepts the above evidence, she has ongoing concerns with the way in which conflicts of interest are being managed by Mr Sofronoff and Ms Dick.[353] Dr Wright acknowledged that while her concerns persist, she had withdrawn statements to the COI in this regard[354] and did not wish for this COI *'to delve into or address'* them.[355]

Conclusions on work undertaken to address the First COI Recommendations

261. The evidence supports, without contradiction, the work being done by Dr Wilson-Wilde to address the First COI Recommendations. This includes making major changes to the culture and work practices of FSQ. While this will take some time, there is no evidence to support concern for the ongoing work of FSQ under her direction and under the external supervision of the interim FSQ Advisory Board and of Queensland Health.

262. There is no evidence that would undermine public confidence in the current work of FSQ.

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[351] See First Dick SC Statement and Second Dick SC Statement. See also the structural diagram of the constitution of the Advisory Board and the three sub-committees: Exhibit MSC.010.034.0001, Interim FSQ Advisory Board, Organisational Chart.
[352] COI Hearings, Day 3 (TRA.500.003.0001): T265.21-27.
[353] COI Hearings, Day 3 (TRA.500.003.0001): T267.24-26 and T267.40.
[354] Exhibit MSC.010.035.0001, Email of Dr Kirsty Wright to the Commission of Inquiry (Subject: Conflict of Interest Statement) dated 27 October 2023.
[355] COI Hearings, Day 3 (TRA.500.003.0001): T267.35-T268.3.

I. RECOMMENDATIONS

263. Having regard to the evidence at the hearing, I consider that the main question arising is whether Recommendation 105 from the First COI Report is now sufficient or requires modification.

264. I note that in its written submissions, the State of Queensland (through Queensland Health) considers that no modification needs to be made to Recommendation 105, and that the review process proposed by Dr Wilson-Wilde in her evidence (and as recorded in the draft minutes of the Forensic Justice Advisory Sub-Committee dated 7 September 2023[356]) is sufficient to address the matters raised in relation to Project 13.[357]

265. While there is force to this submission, I consider that the better course is for Recommendation 105 to be amended so as to make plain that the review process is to go back to 29 October 2007, when the Automated DNA IQ Method was introduced in the QHFSS Laboratory. Such an amendment is appropriate because Recommendation 105 does not contain any time period for the review.

266. Further, I consider it is also appropriate to make reference to the Automated DNA IQ Method and to the fact that it is the samples previously tested using that method which are to be re-tested and that re-testing of extraction batches is not sufficient.

267. The number of samples affected is very large. The evidence is that not all of those samples will require re-extraction. A decision on the samples to be subject to re-extraction, and the priority to be given to that process, was set out in the evidence of the independent experts and accords with Recommendations 13 and 14 of the First COI.

268. As to the current operation of the FSQ Laboratory, given the extent of the Recommendations made in the First COI Report, the interim FSQ Advisory Board may wish to consider the introduction of key performance indicators (KPIs) for the CEO concerning the implementation of those Recommendations. That is, however, a matter for the interim FSQ Advisory Board to consider and determine whether such a step should be taken.

269. Therefore, I make Recommendations as follows:

    1. *Subject to Recommendation 2, the Laboratory should conduct a retrospective review of all samples previously tested using the MultiProbe Device between 29 October 2007 and 21 November 2016 to determine if they are capable of being re-tested for the purposes of DNA extraction. Samples that are so capable should be subject to DNA extraction and testing.*

[356] Draft Forensic Justice Advisory Sub-Committee Minutes (7.9.23).
[357] Submissions of State of Queensland (through Queensland Health) dated 2 November 2022.

2. *The process of that retrospective review and re-testing should be accordance with that set out in Recommendations 13 and 14 of the First COI.*

Human Rights Considerations

270. In determining what Recommendations are appropriate to make in this Report, the COI has considered the potential impacts of any Recommendation on the human rights enshrined in the *Human Rights Act 2019* (Qld) (**HRA**).

271. The Recommendations above will ensure that samples originally processed using the Automated DNA IQ Method involving the MultiProbe Device between 29 October 2007 and 21 November 2016 will be re-tested, by a process of retrospective review in accordance with Recommendations 13 and 14 of the First COI. The Commission considers that these Recommendations are compatible with, and do not limit, any human rights under the HRA.

Dated: 17 November 2023
Dr Annabelle Bennett AC SC
Commissioner

APPENDIX A

Order in Council and Terms of Reference

Commissions of Inquiry Act 1950

COMMISSIONS OF INQUIRY ORDER (No.1) 2023

Short title

1. This Order in Council may be cited as the *Commissions of Inquiry Order (No. 1) 2023*.

Commencement

2. This Order in Council commences on 5 October 2023.

Appointment of Commission

3. On 13 December 2022, a *Commissions of Inquiry Order (No.3) 2022* Report was handed down (the Report).
4. The Report made 123 recommendations and all the recommendations were accepted by the Queensland Government.
5. To ensure continued public confidence in the delivery of the recommendations, and following recent concerns raised, a further investigation will be undertaken.
6. This new investigation will provide an opportunity for new information to be considered in relation to '*Project 13. Report on the Verification of an Automated DNA IQ™ Protocol using the MultiPROBE® II PLUS HT EX with Gripper™ Integration Platform*' (Project 13).
7. The Honourable Dr Annabelle Bennett AC SC is appointed as the Commissioner (the Commissioner).
8. The Commissioner will undertake an open and independent inquiry to:
   (a) Review recent public statements and other documents, including but not limited to documents that will be provided by Queensland Health, in relation to Project 13; and
   (b) Consider whether the Recommendations in the Report are sufficient to address the matters raised in the above materials; and
   (c) In undertaking a) and b) interview any or all experts who provided advice in *Commissions of Inquiry Order (No.3) 2022* in relation to Project 13 or related DNA extraction methods.

Commission to report and make recommendations

9. The Commissioner will provide a report and recommendations, including an executive summary, by 17 November 2023.
10. The Honourable the Premier and Minister for the Olympic and Paralympic Games, the Honourable Minister for Health, Mental Health and Ambulance Services and Minister for Women and the Honourable Attorney-General and Minister for Justice and Minister for the Prevention of Domestic and Family Violence will be provided with the report and recommendations.

Application of Act

11. Pursuant to section 4(2) of the *Commissions of Inquiry Act 1950*, it is declared that all of the provisions of the *Commissions of Inquiry Act 1950* shall be applicable for the purposes of this inquiry, except for section 19C (Authority to use listening devices).

Conduct of Inquiry

12. The Commission may receive submissions from relevant individuals and entities and hold public and private hearings in such a manner and in such locations as determined by the Commissioner, as appropriate and convenient and in a way that protects and promotes the rights protected under the *Human Rights Act 2019*.

ENDNOTES

1. Made by the Governor in Council on 4 October 2023.
2. Notified in the Gazette on 5 October 2023.
3. Not required to be laid before the Legislative Assembly.
4. The administering agency is the Department of Premier and Cabinet.

APPENDIX B

Commission Staff

Dr Annabelle Bennett AC SC was appointed as Commissioner for the Inquiry. Mr Andrew Fox SC was appointed Senior Counsel Assisting and Ms Gabriella Rubagotti, Ms Catherine Bembrick and Ms Sarah Constable were appointed Counsel Assisting.

The Commission of Inquiry was supported by a secretariat comprising seven staff, including an Executive Director and legal, policy and administrative staff.

EXECUTIVE DIRECTOR
Jane Moynihan

DIRECTOR, POLICY
Kyle Fogarty

DIRECTOR, BUSINESS SERVICES
Lauren Cawood

EXECUTIVE ASSISTANT
Ying Juin Yip

PRINCIPAL LEGAL OFFICER
Ian Dennis

PRINCIPAL LEGAL OFFICER
Michael Potts

MANAGER, MEDIA AND COMMUNICATION
Siobhan Milne

APPENDIX C

List of Witnesses

The below list includes the details of witnesses who appeared at the Commission's hearings and the hearing dates.

Date	Name	Title and Organisation
Monday 30 October 2023	Thomas Nurthen	Reporting Scientist, Forensic Biology Division, Forensic Science Queensland
	Vanessa Ientile	Former Scientist, Queensland Health Forensic and Scientific Service
	Firman 'Iman' Muharam	Senior Manager, Thermo Fisher Scientific
	Allan McNevin	Reporting Scientist, Forensic Science Queensland
	Dr Vojtech Hlinka	Former Scientist, Queensland Health Forensic and Scientific Service
	Breanna Gallagher	Former Project Scientist, Queensland Health Forensic and Scientific Service
Tuesday 31 October 2023	Dr Linzi Wilson-Wilde	Chief Executive Officer, Forensic Science Queensland
	Dr Bruce Budowle	Renowned scientist and Expert Witness
	Dr Kirsty Wright	Independent Forensic Biologist and Expert Witness
	Ms Johanna Veth	Forensic Scientist and Expert Witness
Wednesday 1 November 2023	Dr Linzi Wilson-Wilde	Chief Executive Officer, Forensic Science Queensland
	Dr Kirsty Wright	Independent Forensic Biologist and Expert Witness
Thursday 2 November 2023	Thomas Nurthen	Reporting Scientist, Forensic Biology Division, Forensic Science Queensland
	Vanessa Ientile	Former Scientist, Queensland Health Forensic and Scientific Service
	Allan McNevin	Reporting Scientist, Forensic Science Queensland

APPENDIX D

Parties granted Leave to Appear

Name	Legal representative
Dr Linzi Wilson-Wilde	Ashurst
Breanna Gallagher Cecilia Iannuzzi Generosa Lundie Allan McNevin Firman ('Iman') Muharam Thomas Nurthen	MinterEllison
Vanessa Ientile	Holding Redlich
Susan Hedge	RBG Lawyers
Amanda Reeves	Macpherson Kelley
David Neville	McGinness & Associates Lawyers
Queensland Health	Crown Law