Dr K. Wright: Review of Project 13 Statements

1. The concerns raised by me about Project 13 prior to the Inquiry were:

   I believed QHFSS:
   a) knew the method was not properly recovering DNA prior to its implementation;

   b) knew the implementation of the method would result in crime scene samples failing;

   c) despite the above, made a decision to implement the failed method in October 2007; and

   d) concealed the failures of the method to other scientists, the police, the courts, and the government.

2. I believed the method (including further iterations of it) was not fixed after its implementation and subsequent re-implementation, and the poor DNA recovery continued for many years.

3. I believed that scientists who knew about the poor DNA recovery should have disclosed this when they were asked to testify at the 2002 Inquiry. Specifically, Mr Thomas Nurthen (Senior Scientist of the Automation Project) and Mr Allan McNevin (Manager of the Analytical Section).

4. Based on my observations from the Project 13 statements, supporting documents, and documents I have previously reviewed, my opinions of these concerns are as follows.

5. It appears the progression of events for the implementation, and ongoing use of the failed DNA method are:

   i. There are external pressures on the lab to clear the backlog by the end of 2007.

   ii. The robotic extraction method was key to enabling this, however, by October 2007 the method had poor DNA recovery (Project 13) and was not ready for implementation.

   iii. A decision was made, despite concerns raised about the DNA yield failure and knowledge it would fail on crime scene evidence, to implement the method anyway and then fix the yield issues after it was implemented.

   iv. Within months of implementation, there was widespread contamination caused by the robot, and in July 2008 the robots are taken off-line to fix the contamination.

v. The contamination issues were fixed, however, the yield failure was not, and appears to have gone unnoticed.

vi. The Re-implementation Report in 2009 included a false experiment that used already extracted DNA to test how well the robot was extracting DNA. The results of the report incorrectly indicated there were no further issues with the robots and they were re-introduced (without the yield issue being fixed).

vii. Project 70 (2011) showed up to eight times lower in DNA recovery between the failed robotic method, compared to a new robotic method. Authors documented the MulitPROBE II method recovered significantly less DNA than it ought to, but did not make recommendations to fix it.

viii. In 2012 and 2013 there is evidence the method was still not sufficiently recovering DNA (my analysis during the CoI).

ix. Knowledge of the failed method was not disclosed by Mr Nurthen or Mr McNevin at the 2022 CoI when they were asked to discuss issues with the robotic method.

I believe QHFSS knew the method would fail, but decided to implement it regardless, knew this would cause evidence to fail, and concealed the failings.

6. The following information supports this concern.

7. Tom Nurthen's statement (paragraph 89):
"*The draft recommendations do not accord with the view I expressed to Vanessa Ientile prior to Project 13 going live. My view was that we were not ready to go live because the yields from the Automated DNA IQ Protocol were too low at that time. My concern was that the yields would not be as sensitive to extract lower amounts of DNA. Based on my review of my records, I expressed my view to Vanessa Ientile at our weekly project update meetings, including on 9 October 2007 and 16 October 2007*."

8. Mr Nurthen refers to two attachments (TN-29 and TN-30) which are minutes from weekly automation project meetings he had with Vanessa Ientile.

9. 9 October 2007: "*Lower yield-auto to manual. Manual working well." Action status- "Impact on going live*"

10. 16 October 2007 (less than 2 weeks prior to implementation): "*Yield expts 50% lower on auto process than manua*l". "*Action/Status implementation then optimisation*".

11. Mr Hlinka discusses that the recommendation in the 2008 report "*were most likely made by management staff like Thomas Nurthen…particularly in pressure and*

response to get the Automated NDA IQ method up and running as soon as possible to clear the immense backlog of forensic samples[1]".

12. This is consistent with media statements in 2007 about the backlog pressures, and in my opinion, indicates the backlog was the driver for the decision to implement the failed method. An article from the Courier Mail dated 2 September 2007[2] states:

    "*Queensland Health insists the minister's pledge still stands and that the remaining 8894 cases will be cleared by New Year."*

    "*QHSS is on track to clear the backlog of DNA cases by the end of the year,'' said an official from the department."*

    "Cathie Allen, acting managing scientist of forensic biology at the centre, has backed the department's claims, saying she is ``100 per cent'' certain they will hit their targets."

    "But the long induction process for the machines means only one of the four robotic platforms is in use. s Allen said ***two more of the platforms were expected to come on-line next month****."*

13. Mr Nurthen believes the Project 13 report was never distributed internally or externally[3]. In my opinion, it is very unusual for a verification report to not be distributed prior to, or after implementation of a new method in a forensic laboratory.

14. In the 2009 Re-implementation Report (TN-32)[4] the authors stated the range of DNA tested in the sensitivity study "*reflect those observed in forensic samples, ie, approximately 78% of casework samples generate quantitation values of less than 0.1ng/ul*". In my opinion, this demonstrates an awareness that the DNA recovery failure would affect a large number of crime scene evidence.

15. Given their positions at QHFSS I would expect Mr McNevin, Mr Muharam, and Mr Hlinka[5] would also have known the method was failing to recover sufficient DNA at the time of the decision on 29 October 2007 to implement the robots. However, Mr McNevin and Mr Muharam have not disclosed any knowledge of the yield failure in their statements.

16. A junior scientist in the Automation Team, Ms Gallagher was aware, so it seems impossible that the Manager of the Analytical Team was not. Information in Ms Gallagher's statement indicates she had knowledge of the DNA recovery failures related to Project 13. *"I recall issues with the yield of DNA extraction arose when we proceeded with extraction with the pre-set temperatures for the heating device*

[1] Mr Hlinka statement, p26, paragraph 1.
[2] 'Still a big freezer-Delay of justice in DNA. The Courier Mail. Edmund Burke.
[3] Mr Nurthen statement, page 16, paragraph 82.
[4] TN-32, page 14, paragraph 4.
[5] Mr Hlinka states he reviewed the report (paragraphs 8 and 9).

outlined in the manufacturer's protocol because the samples would not increase to the necessary temperature."[6]

17. Information in Mr Hlinka's statement indicates he had knowledge of the DNA recovery failures "*Yield and sensitivity appeared significantly lower for the automated method."*[7]

18. Documents exist from Ms Ientile[8], Mr Nurthen[9], Mr McNevin[10], and Mr Muharam[11] that discuss the implementation of the method, the subsequent contamination issue, but fail to disclose the DNA recovery issue when they should have.

19. In my opinion, the above information demonstrates that:

    i. it was known the method was not recovering sufficient DNA prior to its implementation;

    ii. those who knew about the DNA recovery failings knew that a wide range of crime scene evidence would fail as a result of the implementation of the method;

    iii. Despite knowing of the method failures, a decision was made regardless to implement the failed method. There are documents that show Ms Ientile and Mr Nurthen were involved in a meeting where this decision was made.

    iv. There is no evidence in any QHFSS documents I received that anyone who was aware of the poor DNA recovery and the expected failure of crime scene evidence it could cause, conveyed this to QHFSS staff, police, or the courts.

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[6] Ms Gallagher's statement, page 11, paragraph 68-e)

[7] Mr Hlinka's statement, page 25, paragraph 5.

[8] AM-06 E-mail from Ms Ientile to Forensic Biology 24 October 2007. This e-mail informs QHFSS staff of the method implementation. It also states that a briefing session will be provided by the Automation Team who will go through "in detail the validation report" including "verification of the automated process". The attendance was mandatory. EXH 129.65 Memo from Ms Ientile to Forensic Biology 14 July 2008 about contamination issue. Reassures staff the method had undergone an "extensive validation".

[9] TN-32 'Re-implementing the Automated DNA IQ extraction protocol on the MultiPROBE II PLUS HT EX Forensic Workstation platforms and associated processes' dated April 2009.

[10] AM-07 E-mail from Mr McNevin to Forensic Biology 6 November 2007. This e-mail advises staff of changeover processes, but does not disclose any mention of the recovery failure. He presents an upbeat and reassuring attitude. "*Thank-you all for your help with the change-over today, and I'm sure your will join me in the excitement of seeing these extraction platforms coming on-line, really ushering the final stages of the beginnings of a new era in Forensic Biology (DNA Analysis) . Woo-hoo*"

[11] EXH 129.67, EXH 129.68, EXH 129.69. Various presentations of method audits and enhancements relating to contamination issue. Nothing is included about DNA recovery failure.

I believe the method (including further iterations of it) was not fixed, and the poor DNA recovery continued for years.

20. In opinion QHFSS data supports the method was not fixed, and it continued to fail over many years. I have not reviewed any documents that demonstrates the method was fixed or performing optimally. This is based on:

    i. The 2009 Re-implementation Report which includes a false experiment to test the sensitivity of the automated method, but does this by testing the method on already extracted DNA;

    ii. None of the changes to the method were designed to increase DNA recovery, they were to address the contamination issues;

    iii. Table 1 in my statement provides quantitative data of the method's different iterations, and there is no improvement;

    iv. My analysis of data from 2012 to 2013 during the CoI shows the method was recovering four times less DNA than a second method;

    v. My analysis of the Blackburn positive controls during the CoI shows a four-fold difference in DNA recovery compared to a second method;

    vi. Project 70 (2011) shows the MultiPROBE II method recovered up to eight time less DNA than a second method on trace samples.

21. Mr Nurthen states the DNA recovery issue was fixed in 2009 (paragraph 97-b). He refers to a report titled 'Re-implementing the Automated DNA IQ extraction protocol on the MultiPROBE II PLUS HT EX Forensic Workstation platforms and associated processes' dated April 2009 (TN-32).

    In Mr Nurthen's statement he specifically refers to the results within the 2009 report in Figure 8 to demonstrate why he did not disclose the DNA failure to the 2022 CoI. He then explains the procedure is '*very sensitive and able to isolate low copy number DNA samples at a very high recovery rate that is close to 100%. Therefore I did not consider yields to be a DNA Q 'problem' from reimplementation onwards*."[12] At first glance of the graph, it appears the method is working exceptionally well.

22. In my opinion, the conclusions drawn from Figure 8 are incorrect. The project used **human genomic DNA** of quantities between 2ng to 100ng in a solution of 300ul of water to test the sensitivity of the method (to test if it was recovering sufficient DNA from samples including trace samples).[13]

23. 'Human genomic DNA' is a liquid sample of DNA that has **already been extracted and purified**. QHFSS purchased this pre-extracted DNA from a company. In all

[12] Thomas Nurthen statement, page 19, paragraph 97-b).
[13] See Section 6.2, page 7 of the TN-32 report.

other DNA extraction projects (9, 11, and 13) QHFSS used blood dried on swabs to test the DNA extraction method. In my opinion, it makes no scientific sense to test a DNA extraction method, using DNA that is already extracted. That is, the 2009 project put already extracted DNA into the robot, to see if it could extract DNA.

24. In my opinion, this experiment does not prove the method was working, and does not prove the method was fixed. I believe any forensic biologist would agree. I question why QHFSS used genomic DNA for this project. Could it be they knew this report was going to be widely distributed and scrutinised, and they did not want the yield failure to be revealed? In my opinion, the experiment for 'Sensitivity and efficiency as assessed by percent recovery'[14] was designed to reach a desired outcome of successfully recovering DNA and to falsely convey there were no DNA recovery issues.

25. None of the changes to the method appear to address the yield failure (they appear to address the contamination issue).

26. Project 70 shows the method was still failing in 2011 (it recovered up to 8 times less DNA than another method for trace samples).

27. The data I analysed from 2012-2013 for the 2022 CoI [15]shows the method was still failing also.

28. The data I analysed for the Blackburn matter for the 2022 CoI[16]

29. The data I analysed to compare the performance of Project 13 with Project 21 and 21 (the introduction of the 'off-deck lysis')[17] show the DNA recovery did not improve.

I believe that scientists who knew about the poor DNA recovery should have revealed this when they were asked to testify at the 2022 Inquiry.

30. I believe both Mr Nurthen and Mr NcNevin knew about the DNA recovery failings, knew the issue was not fixed, and appear to have avoided answering questions they were required to by the CoI in their statements, or have provided misleading answers. In my opinion, Mr Nurthen and Mr McNevin misled the 2022 Inquiry. This is based on:

    i. The absence of any mention of the DNA yield issues in Mr Nurthen's and Mr McNevin's statements to the 2022 CoI.

    ii. The failure to disclose Project 13 to the 2022 CoI.

[14] See section 7.3 of TN-32 report.
[15] Dr Kirsty Wright Statement dated 23 October 2023, Figure 3, p7.
[16] Dr Kirsty Wright Statement dated 23 October 2023, Figure 3, p6.
[17] Dr Kirsty Wright Statement dated 23 October 2023, Figure 4 and Table 1.

iii. There are no documents that show experiments were conducted to specifically fix the yield failure.

iv. In my opinion the 2009 Re-implementation trial is a false experiment and provides false conclusions and reassurances that the method is sufficiently recovering DNA. I believe this is not evidence to support the method was fixed.

v. The authors of Project 70 in 2011 (Mr McNevin is lead author) stated there was a significant yield drop in the MulitPROBE II method compared to the manual method from 2007 (see paragraph 62 to 73 of my statement). This demonstrates empirical awareness of the yield failure by Mr McNevin.

vi. Mr McNevin's 2023 statement includes an e-mail (AM-05) that suggests he was part of an e-mail group called 'MultiPROBE II'. If so, this indicates Mr McNevin would have received regular updates from the Automation Team about the progress of Project 13, including any issues, and causes for delays.

vii. It is also difficult to understand how Mr McNevin, as Manager of the Analytical section, did not know about the yield failure in 2007. I would expect Mr Nurthen would have told Mr McNevin of his concerns about implementing a method into his section that he knew would fail.

viii. Ms Ientile states in her statement: "*It is possible that Allan McNevin as the Senior Scientist of the Analytical Section may also have had input into the development of the testing performed as part of the validation projects*"[18].

ix. Ms Gallagher states in her statement that: "*The Automation/LIMS Implementation Project Team occasionally had conversations with the following people in relation to the* [automated] *protocol being developed as part of the Project: (a) Allan McNevin, who I believe was the head of the analytical lab."*[19]

x. Mr Muharam's statement states (paragraph 23) "*I primarily worked with Allan McNevin, who was a member of the Analytical Team but often supported the Automation Team*." This suggests Mr McNevin had some involvement with the automation project and the automation team. Given Mr McNevin was also later the Manager of the Analytical Team, it would be expected he would take responsibility to maintain awareness of issues and address them if required.

xi. In Mr Nurthen's statement he offers three excuses for why he did not disclose his knowledge of the yield failure to the CoI. 1) He claims the method was fixed in 2009; and 2) he states "*It did not occur to me in giving my written statement to the Sofronoff Inquiry to mention or explain the 2008 report because the laboratory's focus in 2008 was determining the cause of, and taking action in response to, contamination issues*"; and c) the 2008 report was a draft.

[18] M Ientile statement, page 10, paragraph 29.
[19] Ms Gallagher's statement, page 9, paragraph 59.

31. I believe these are not valid reasons not to disclose a serious and systemic DNA failure to a CoI that arose from a method when he was specifically asked to:

    "*Explain what problems with DNA IQ were experienced in approximately 2008*."[20]

32. The poor DNA recovery was still an issue, and not resolved in 2008 and Mr Nurthen knew this. In my opinion, the method was not fixed and Mr Nurthen knew this.

33. Although Project 13 was still a draft document, it was the most relevant document QHFSS had which explained the DNA recovery problems they were having in 2008 with the method. In my opinion, Mr Nurthen should have disclosed the Project 13 report to the CoI.

34. Mr McNevin offers the explanation below as to why he did not disclose the Project 13 report to the 2022 CoI[21]:

    > *"I recall that on review of the questions that were asked in the request for statement 2022-00181, the Commission of Inquiry was seeking information as to the contamination events onwards, for which I had a role in. I understood the request for the statement to be centred around DNA IQ and the resulting contamination events, including issues as to the systems and processes."*
    >
    > *"I was not a part of the Automation Team and did not have a role in the devising of the Manual Method or Automated Protocol, and did not have a role in the validation of the protocols."*

35. In my opinion, this is incorrect. The CoI question clearly does not restrict the answer to the contamination issue.

36. Mr McNevin does not state in his explanation that he had no awareness of the 2008 report at the time of the CoI. In my opinion it is likely Mr McNevin would have been aware of the report in 2008 given the method was implemented in the section he was managing at the time, and it would be expected that the manager would review all validation and verification reports of new methods.

37. Mr McNevin states:[22]

    > "*The role of the Analytical Team was the implementation of the completed protocols and updating SOPs for routine use."*

38. In my opinion, this demonstrates a significant level of knowledge by Mr McNevin of new methods that were implemented in the Analytical Team, including the MultiPROBE II method.

39. Mr McNevin was also responsible for ensuring methods implemented in the Analytical Section were appropriately monitored to ensure they provided accurate

[20] Mr Nurthen's 2023 statement, p18. Refers to CoI question 6 (see paragraph 94-a).
[21] Mr McNevin's 2023 statement, page 12, paragraphs 95 and 97.
[22] Mr McNevin's 2023 statement, page 5, paragraph 31.

and reliable results. Given the method was failing significantly from the time it was implemented and for many years thereafter, in my opinion, this shows a complete failure of McNevin to carry out his duties as Manager of the Analytical Section for several years until he left the position in 2014.

40. If Mr McNevin had properly monitored the DNA extraction processes, any DNA recovery failings should have been immediately detected, and testing by that method on crime scene evidence immediately stopped.

41. I believe the questions the CoI asked Mr Nurthen and Mr McNevin were broad enough in scope for them to include the DNA recovery issues, and even if they were not, they should have offered this information regardless given its significance.

42. Their failure to disclose this key information led to the systemic DNA recovery issue being missed by the CoI when it should have been disclosed.

43. Mr McNevin and Mr Nurthen are both are Reporting Scientists for QHFSS, and are therefore aware of their responsibilities as expert witnesses. They have many years of experience in providing written and oral expert evidence. In my opinion, they would also have been aware that by not disclosing the DNA recovery failure, it would mean thousands of cases may not be re-tested.

44. In my opinion, none of the explanations provided by Mr Nurthen or Mr McNevin are sufficient, and I believe they misled the 2022 CoI by omission.

Dr Kirsty Wright 28 October 2023