Commission of Inquiry
to examine DNA Project 13 concerns

Brisbane Magistrates Court
Court 40, 363 George Street, Brisbane

On Tuesday, 31 October 2023 at 9am

Before: The Hon Dr Annabelle Bennett AC SC, Commissioner

Counsel Assisting:

Mr Andrew Fox SC	(Senior Counsel Assisting)
Ms Gabriella Rubagotti	(Counsel Assisting)

THE COMMISSIONER: Before we start the proceedings this morning, I want to say something.

I was made aware that yesterday evening there was a breach of the media protocol, and that there was a broadcast on Channel 10. We have made some inquiries and an explanation has been received, but I want to say two things about it. The first is: I now make an order in terms of the protocol to make it clear that if there is any further breach of the media protocol, it may well constitute a contempt of this Commission.

The second thing is, if there is any further breach of the protocol at all, I will seek an explanation personally from the head - I will be giving notice to attend to the head of any station or any media outlet that breaches the media protocol. I just want to make that statement now and make it clear.

I did ask for the particular journalist to be present here this morning to give an explanation and that journalist has explained that (a) he says it was a mistake and (b) that he is not able to be present this morning because he is covering something somewhere else in the state, I think it might well be a bushfire, which is another sad thing to have to cover, but there is to be no breach of the media protocol. I make that perfectly clear.

With those words, I now call upon you, Mr Fox, thank you.

MR FOX: Thank you, Commissioner. Could I start with a matter of housekeeping and provide you with an updated tender list for today's purposes. What I have done is just to identify on the second page in the highlighted 24/25/26, the further statements, and then also on the final page, items 57, 58 and 59. The document doesn't contain Dr Wright's second report at this stage. We will add that overnight.

In terms of the proceedings today --

THE COMMISSIONER: I note those and they will be given the same exhibit numbers as in the previous protocol.

EXHIBITS TENDERED AS PER SCHEDULE

MR FOX: Thank you. So we're starting with a concurrent session between four experts this morning. We'll have two appearing by videolink and then two present. We'll have Dr Wright and Professor Linzi Wilson-Wilde present and we have Dr Budowle and also Ms Veth appearing by videolink. I understand that they are hopefully ready to be joined, at least --

THE COMMISSIONER: I can see one person. I assume that's Ms Veth on the screen.

MR FOX: I suppose it's a matter of inviting the two present experts to the box to be sworn in the usual way and I will outline the general territory to be covered.

THE COMMISSIONER: Dr Wright and Dr Wilson-Wilde, would you come into the hot tub, as we've been calling it, thank you.

<KRISTY WRIGHT, affirmed: [9.03am]

<LINZI WILSON-WILDE, affirmed: [9.03am]

<JOHANNA VETH, affirmed [9.03am]

<BRUCE BUDOWLE, affirmed: [9.03am]

THE COMMISSIONER: Thank you.

MR FOX: Commissioner, did you want to say anything by way of introduction to the experts?

THE COMMISSIONER: I'm not sure, actually. I sort of assume as experts they may well have been familiar with the idea of what is otherwise concurrent expert evidence, and I know that - I don't think Ms Veth - I don't know if Ms Veth and Dr Budowle were watching yesterday at the time when I gave the explanation about it. I know that both Dr Wright and Dr Wilson-Wilde were present.

Just to make it absolutely clear, you will be asked a series of questions, they may be directed to any one of you, but if a question is directed to one, it doesn't mean that the others cannot make an observation. In fact, you would be encouraged to do so. I think certainly Mr Fox will have initial control of it. But it has to be orderly. So if you indicate that you wish to make a comment, you may

be asked, but if you're not specifically asked and you wish to make a comment, please feel free to raise your hand and you can ask a question of each other if you wish to do so to clarify or elaborate any particular point. That is the way that it's going to work.

MR FOX: Thank you, Commissioner. Can I just indicate to the expert witnesses just the general topics that we're going to address in the course of this morning. If it spills into the afternoon, so be it. The first is that we're going to look at the Project 13 scientists' evidence and also the Project 13 report. We're then going to look at the circumstances in which all experts gave their evidence in the first Inquiry, and that was done right at the very end of the Inquiry, and I will be leading some questions about that. Then the third area of discussion will be in relation to the questions that have been - sorry, the steps that have been taken by Forensic Science Queensland since Professor Wilson-Wilde was appointed as the CEO, so that will be an opportunity for you to indicate the steps that have been taken and for your colleagues to indicate what they have to say about that.

That's the general territory. There are documents that I will be referring to from time to time, if that becomes necessary. They will be called up electronically on the screen in front of you, and of course you will have your own reports or other documents. Feel free to make reference to those. It is not intended to be a memory test so if you need to go back and look at something, please feel free.

Can I just start by asking each of you as to what you have read and considered. Dr Wright, I will lead you in this respect, I'm going to work on the basis that you have read all of the Project 13 scientists' statements and you had the opportunity to listen to their evidence yesterday.

DR WRIGHT: Yes.

MR FOX: Professor, you have had an opportunity to read the statements as well?

ADJUNCT PROFESSOR WILSON-WILDE: I have, yes.

MR FOX: Did you manage to watch the oral evidence yesterday?

ADJUNCT PROFESSOR WILSON-WILDE: I was present in the --

THE COMMISSIONER: I think she was present.

MR FOX: I didn't say that, so thank you. I was too focused on what was in front. Then can I just turn to Ms Veth, could you just indicate whether you have read all of those Project 13 scientists' statements and also managed to watch yesterday the oral evidence?

MS VETH: Yes, that's correct.

MR FOX: Thank you. And Dr Budowle, the position with respect to you, please?

DR BUDOWLE: Yes, I've read all the statements that were provided to me by the scientists, Professor Wilson-Wilde and Dr Kirsty Wright's statements, and - but I did not watch yesterday's proceedings.

DR BUDOWLE: Thank you.

THE COMMISSIONER: Which is understandable considering the time frame.

MR FOX: We might ask if the audio could be increased, which would be helpful I think, particularly for those experts who are a bit further away from the screen.

Could I just confirm also in relation to Dr Budowle, Ms Veth and Dr Wright, you have obviously read and considered the Project 13 report now that you have obviously been asked to give evidence in this particular forum, so I note that, Dr Wright, particularly for you. Professor, you have now had a chance to consider that document in more detail?

ADJUNCT PROFESSOR WILSON-WILDE: I have, yes.

MR FOX: Ms Veth, have you now considered that document? I know you weren't provided with that before the first inquiry?

MS VETH: Yes, I have.

MR FOX: Dr Budowle, you have also considered that

document?

DR BUDOWLE: Yes, since it was provided recently.

MR FOX: Thank you. Can we then turn to the first topic of the modified DNA IQ protocol which was being used with the MultiPROBE device. So you understand, just in terms of the nomenclature for today's purposes, when I refer to the automated DNA IQ protocol I'm referring to what the laboratory implemented in October 2007. That involved a modified manual DNA IQ protocol which was itself, when I say "modified", modified from the off-the-shelf Promega DNA IQ protocol. So we're all clear on understanding those steps? Just say yes if that's the case.

MS VETH: Yes.

DR BUDOWLE: Yes.

MR FOX: Thank you. I want to ask about the modifications that were made for the manual DNA IQ protocol. You will have heard yesterday in the evidence and, Dr Budowle, you would have seen this, particularly in the evidence of Dr Hlinka, he sets all of these points out, but joined in by his colleagues when they talk about the modifications, just to mention them briefly, there was the first modification which was the inclusion of a lysis step using an extraction buffer in the presence of Proteinase K, that was before the incubation in the DNA IQ lysis buffer; the second modification was that the lysis incubation conditions were lowered to 37 degrees Celsius, and it was said that that was done to broaden the range of samples that could be used or tested. The third modification was that there was a double elution step, you will recall that evidence. So this was that the QHFSS manual and the automated DNA IQ methods both had a double elution of 50 microlitres whereas the CFS automated DNA IQ protocol had a smaller elution volume towards the lower amount recommended by Promega. That was around using 25 to 100 microlitres. Then the fourth modification was the - I think I may have flippantly referred to that as the plastics amendment, and that was the use of the Nunc - N-U-N-C - Bank-It tubes for storage of final extracts and then Mr Nurthen also talked about the modifications which were made to the Slicprep desk.

Can I just ask you in relation to those four

modifications? Firstly, I will start with Dr Budowle. Do you have any observations to make about the fact that modifications were made from the off-the-shelf manual DNA IQ protocol as developed by Promega?

DR BUDOWLE: Any method that one may entertain may be modified depending upon the performance in the hands of the laboratory, because there are certain times and certain situations where the environment, the chemicals that are used, the buffers that may be required, may impact the performance from what a manufacturer has delivered. However, typically, when you start, you begin with the procedure that is recommended when you have a baseline of its performance, compared to whatever performance other methods are in your laboratory. Then, if that performance is equal to or better, you might keep it; if it is worse you might try to improve upon it; or if you think there are some ideas you might entertain that could improve even beyond what was recommended, those are always worth considering, as long as it is done in a controlled fashion.

MR FOX: Do you consider that those modifications that you saw - was there anything unusual about them or unexpected or any degree of controversy on your part when you saw them?

DR BUDOWLE: Not generally. However, because I didn't go into depth on these, for this - for today's proceedings, double elutions, though, do create some issues because they create a larger volume of sample and a larger volume of sample can dilute out the amount of DNA in a certain - in a volume. So though typically - let's just - I will make up a number, if you retrieve things in 50 microlitres and you have a good yield relatively speaking to a second elution, but then you do a second elution, you pool them together, you may not have the same amount of DNA per unit volume that you had with the first elution. So it would be very important to assess those impacts, because diluting out may reduce the amount of DNA that can be placed into a subsequent reaction.

MR FOX: Professor Wilson-Wilde, would you like to comment on this topic now?

ADJUNCT PROFESSOR WILSON-WILDE: Sure. I had the same comment to the Commission in the sense of they were eluting to 100 microlitres, whereas I felt that if they were

eluting to a smaller volume, they would get a higher concentration of DNA, and maybe get a more beneficial result.

I will say that in terms of the changes from the original Promega method, there was the extraction wash step with the Pro K and the TNE, and then they did a lysis step with DTT after that, and then added the - and added the lysis and the resin beads as well. So there were sort of multiple steps in the process compared to the original method, which in itself is not unusual, but each of those changes really should have been checked independently.

MR FOX: And you couldn't see anything amongst the materials that suggests that that had actually occurred?

ADJUNCT PROFESSOR WILSON-WILDE: Not from what I could see.

MR FOX: Ms Veth, would you like to indicate your response to the general question posed?

MS VETH: Yes. I don't have anything really to add. It's quite normal for there to be modification testing, but it should be done with good reason, the modifications should be done with good reason and that documented, and then those modifications performed in a sort of step-wise fashion so that you can determine the efficacy of each modification, and I'm not sure that the Project 13 document really explains the results of each modification step by step.

MR FOX: Thank you. Dr Wright?

DR WRIGHT: I agree with the other experts. The double elution I think was the biggest change that may have had the largest impact. I think the prime volume was 120 to 100 microlitres versus 50 microlitres. The Slicprep as well, I've never worked with one of those. In Mr Nurthen's testimony yesterday he did raise a couple of times concerns whether the plasticware, the 96-well plate plasticware that was on the robotic platform on the heating stage, whether the plasticware was able to heat up to the required temperature. So they did the right thing, they tested the heating plates on the robot and they were all working accordingly, but when you start changing plasticware, and it may only seem like a small change, but it may be that

the sample inside the well may not be heating up.

The third thing was I'm not sure about the reduction in the temperature and the selection of the Proteinase K that was used. They are all things that need to be considered. Proteinase K has a broad operating temperature. It also has optimal working temperature as well. But as long as the other experts have said that they treated each of those as individual variables and they made sure that each of those, you know, very minor changes were tested one at a time, I don't believe there is an issue with modifying an existing method.

THE COMMISSIONER: Can I just ask one question in respect - I understand everyone's commented on the elution and that could be a problem because it's logical that if you put more volume in, you decrease your concentration. I asked yesterday, I think, about the initial increase in the lysis step, and the explanation was that that wouldn't have been the problem because that disappears when you put it on to the beads, that - so I think it was in effect that it was - once it goes on the beads, that increased volume doesn't have an impact on the subsequent extraction of DNA. Do you all agree with that?

DR WRIGHT: Yes.

ADJUNCT PROFESSOR WILSON-WILDE: Correct.

MR FOX: We have two yeses in the courtroom from the Professor and also Dr Wright. Do you agree with that?

DR BUDOWLE: I'm trying to understand a little bit more about the question, because are you saying the initial --

THE COMMISSIONER: I don't think Dr Budowle can really - without going all the way back through it, I think it's too difficult to ask him to - because he wasn't there to hear the evidence.

MR FOX: Sorry, of course. And Ms Veth, you heard the evidence yesterday?

MS VETH: Yes. And I agree, that wouldn't affect the final volume or concentration.

THE COMMISSIONER: Thank you. That's one variable that we

can not worry about. Yes?

ADJUNCT PROFESSOR WILSON-WILDE: Perhaps I could add, the volume is important to ensure that you've got sufficient saturation of the swab, though, and the additional chemicals that you add in to that extraction buffer will have an impact on the efficacy of the extraction process, the ability of those chemicals to lyse, to remove the biological material off the substrate. So there is a volume component to it, but there is also what you are actually adding in as well.

THE COMMISSIONER: So is it possible, if you make that too dilute, that the agents that are causing the extraction may not work? Is that what you are saying? That would be the only relevant - I understand that you have to have enough volume to extract, but does that add a problem that it may be that you are diluting the extracting agents, or would they just have the same efficacy in a slightly larger volume?

ADJUNCT PROFESSOR WILSON-WILDE: They would have to have a different concentration within a larger volume, so they will have a lower concentration, and so that could have an impact.

THE COMMISSIONER: It's possible.

ADJUNCT PROFESSOR WILSON-WILDE: It is possible. You would have to test it and change one variable at a time in order to be sure.

THE COMMISSIONER: I see. You have all agreed, I think there is full agreement, that any modification you make should have been tested one variable at a time the. I think all the experts have made that statement.

MR FOX: Certainly. Dr Wright?

DR WRIGHT: Just one further comment about the temperature, lowering it to 37 degrees. Another risk of lowering it might be the DNase. The DNase is I'll call it a bad enzyme that is inside a cell. When the cell is broken open, the DNase becomes active and it will actually start eating the DNA. One of the functions of Proteinase K, which is in your chemical solution, is to deactivate the bad enzymes. So that would just be a risk

there, and DNase prefers that lower temperature, that room temperature. So the DNase may have been more active, but if the Proteinase K was suitable at that temperature, the Proteinase K should have deactivated the bad enzyme, because what we don't want is the enzyme chewing up our DNA.

MR FOX: Before we move on from the topic of the modifications that were made, in terms of the validation of the modifications, Dr Wright, do you have any observations to make about what the laboratory did in that respect?

DR WRIGHT: In relation to Project 13 and - I have to say, I thought that there was a lot of open communication, particularly at the end, with the lessons learnt from each of the scientists. I think it was Mr Nurthen suggested that they should have put together a validation plan that should have been signed off by a quality manager, and they should have put together an experimental plan as well, a very deliberate experimental plan. So there were very clear guidelines at the time, in 2007, when Project 13 was commenced, about validation and the different parameters within the validation that should be conducted. So it should have been a full validation and they should have adhered to, I guess, basic scientific principles in terms of designing experiments and the various validation guidelines that were in place at the time with NATA and SWGDAM. It appears that they deviated from that. There were, I think, lots of issues - it didn't conform with a normal experiment or a normal validation.

MR FOX: Thank you. Professor?

ADJUNCT PROFESSOR WILSON-WILDE: Could you repeat the question, please?

MR FOX: Just looking at the topic of validation of the modifications that were made, just if you have any remarks about what the laboratory did in terms of validation.

ADJUNCT PROFESSOR WILSON-WILDE: Thank you. I think when you do a validation study, and I think this should have been a validation study, I think there are two components to this project, one is the instrument and the other is a method. And each of those required their own components to the validation study.

So in my experience, robots, you know, there is a lot that they can - you can adjust and change, and I think there is an optimisation aspect to the robot, making sure that it is pipetting as it should be, moving as it should be, et cetera.

And, then, in respect to the method, if they had made any changes, then that should have been all laid out in a step-wise process with a strong front-loaded empirical matrix where it, if it is tabulated - and that's what I prefer - you can actually physically see, very visibly, that one variable is being tested at a time and you do the front loading of the thinking, you document all of that, that is what gets approved, and then you don't start until that is approved.

Then that makes the testing process a lot easier because you know exactly what you are testing. It also means that you are not going off on tangents or you are not perhaps trying to get an end goal and doing experiments that fit an end goal, that you are very importantly obtaining data that informs, then, what you do next or the next step. I think that's really a vital part of empirical study design, and that's a lot of what I didn't see in Project 13, that really step-wise aspect to it.

The other thing that I think is really fundamental to scientific research is someone should be able to pick up that report and they should be able to replicate that study, there should be sufficient information within the report that an independent scientist can conduct exactly the same experiment, and that wasn't there. It was really difficult to ascertain how the experiments had been conducted, whether there were confounding variables or not, and so it was actually really hard to work out what you could say from that study, based on the document.

MR FOX: Thank you. We'll come to - and I probably started slipping into the Project 13 document but that has created no difficulty at all. Ms Veth, can I start with you first, do you have anything that you wish to add to that discussion that has been had in terms of just the notion of validation and validation of the modifications that were made.

MS VETH: Only that this really wasn't - was barely a validation. It certainly wasn't a complete validation.

I don't want to reiterate everything that the Professor has said, but it's clear that this was incomplete.

MR FOX: Dr Budowle, do you have any observations you want to make in addition to what has been said on the topic of validation?

DR BUDOWLE: Well, I concur with what everybody has said so far. There was just a couple of things, when you are trying to move a manual procedure into an automated procedure, and this is usually not taking a manual procedure and expecting it to perform the same in automation, because automation has certain constraints that one can overcome when they are doing manual procedures. So trying to fit - it is almost like - I won't call it a square peg/round hole, but maybe an oval peg in a round hole approach to trying to satisfy something, as opposed to looking at the features and comparing performance of the current method to the future methods.

Lastly, I would add, I'm not sure what we can rely on in Project 13, because it isn't a formal report, it's not finalised, and we've seen multiple versions in the statements of Mr Nurthen that change things in content. So I don't know what we can glean from that versus what may have been in the minds of the individuals at the time.

MR FOX: Thank you. So we have effortlessly found our way into the Project 13 report. Sorry, Dr Wright?

DR WRIGHT: Sorry, just one final comment about the validation. In Mr Muharam's testimony yesterday, he suggested that they over validated their various projects, and I absolutely reject that evidence. Project 13 was not a validation; it was not a verification - it didn't even come anywhere close. So that is one, I think, thing I would like to just point out, our differences of opinion between the over validation versus - it didn't even come close to a verification.

MR FOX: Thank you. I think I might start with you on the Project 13 report. Just by way of introduction, your comments that you would wish to make, I'm going to go into some various aspects of it but I think it is useful to start with some observations regarding the report itself and what strikes you about if.

DR WRIGHT: I will just be very simple and brief. It was incomplete. The process that Mr Nurthen described yesterday of copying and pasting sections from other validation - or other projects, the abstract, is a really poor process. Writing the abstract before you've completed all of your experiments is very risky.

There was a lack of data. The methods weren't clear. It was very difficult, as the other experts have said, to understand what was done. And, I mean, despite all of that, and I will have to be honest, it was still clear from that draft report that the method was failing. So despite poor experimental designs and not adhering to guidelines and, you know, the report itself being really quite poor, it was still clear to see the method was failing.

MR FOX: Dr Budowle, would you like to provide your introductory observations about the Project 13 report.

DR BUDOWLE: As others have said, it is rather scant and incomplete and one can't reproduce the experiments. I don't think it has good logic and detail. The data are not supportive of an improved system based on the yield of samples that would approximate the kind of samples coming in.

Based on the statements, there was a suggestion that a template was used. I'm not opposed to necessarily using a template and repopulating, because similar formats are used for reporting in agencies. I didn't find that as a compelling argument, because the statements themselves weren't exactly the same as other reports, because they used the word "MultiPROBE II" for their conclusions, so there was some effort to put in what the belief was.

My observation based on other knowledge of, you know, the culture at the time, the work that's being done, it seems the things the lab was more interested in putting something online that is automated and not necessarily assessing whether or not it was something that improved the quality of the system - more about turnaround time, sample processing, not sample quality. And this is just another example of what we observed in the previous Inquiry.

The overall reports, I'm not sure what the overall data are, but based on the documents that Mr Nurthen provided of Ms - was it Ientile?

MR FOX: That's right.

DR BUDOWLE: There was a note, and I interpreted it as something to do with the performance was put up, you know, implement and then further optimise. That, based on the communication, if correctly remembered or recalled, would be not a good recommendation, given the data at the time.

MR FOX: Thank you. And could I just indicate to the experts that I want to come back to, separately, that notion that there had been an observation made by Mr Nurthen that was recorded in those notes, so I will come back to that as a discrete topic in a moment.

Ms Veth, would you like to indicate your introductory observations, please?

MS VETH: I was struck by the fact that there was one draft of the report dated prior to implementation and then several drafts of the report that were subsequent to implementation, and I find that striking because I don't know how the decision to implement was made based on the data in that first report. And to be honest, that data doesn't really change much between the various drafts. So I find that striking and concerning.

I mean, ideally, you will complete a validation, determine that whatever it is, whether it is a method or a piece of equipment, is fit for purpose, and then you implement, and then you check your results - you check the efficacy of the new equipment or method after implementation. It was almost like this method was implemented before it was validated, essentially.

MR FOX: Thank you.

DR BUDOWLE: May I add something?

MR FOX: Yes, certainly.

DR BUDOWLE: I think based on the statements that I read - and I don't know what was said yesterday - no-one took responsibility for this report, in fact, it didn't seem like anybody wrote the report, it just sort of materialised. I find it hard to believe, and I think this may be part of the problem, too - there was a lack of

ownership to take control of this and move it forward. I don't know if that was clarified yesterday, but that was a concern.

The fact that there is no final report and yet it was moved into implementation is another concern, because I had some trouble with Mr McNevin's statements of he didn't have anything to do with it, but some of the scientists said that he was consulted, because when you are a person taking a procedure and implementing it, it's incumbent upon you, a responsibility, to review the validation studies, because validation studies define the limitations of the process. So I find that there is some disconnect on multiple levels, not just the report, not the ownership, not the finalisation, but also the next step of the process, that are serious concerns about Project 13.

MR FOX: Just in light of the fact that you have each heard each other's introductory comments - there may be some other introductory comments that people would wish to make. Dr Wright, you had your hand up, I think?

DR WRIGHT: Yes, sorry, just to add to that - what Ms Veth said. Introducing a method that hasn't been finalised, and it's clear from that report it hasn't been finalised, as well as the testimony from Mr Nurthen yesterday, it brings about the real and genuine risk that then applying that method to crime scene samples brings about the real risk that at least some of those samples will fail when they ought have provided a DNA profile.

As a forensic scientist working in a forensic laboratory, working on rapes and murders, and understanding in some cases the DNA may be the only vital evidence, to introduce an incomplete method that was demonstrated to not be performing, and apply those on precious crime scene samples, they must have known that some of those samples would fail, and as a scientist, I find that completely appalling and reckless.

MR FOX: Ms Veth, would you have any comments to make in response to what Dr Wright has just said then?

MS VETH: I'm in complete agreement. This method could have been implemented solely for, for example, reference samples, which are known samples from individuals that are taken, for comparison to crime scene samples. So if they

were under pressure to implement an automated method, they could have just restricted this method to those sorts of samples where there was no real concern about the amount of DNA present because they are samples taken directly from individuals, and normally there's plenty sample to go back to. But to use this method on crime scene samples, I agree with Dr Wright, it was reckless.

MR FOX: Dr Budowle, your comments in relation to those remarks of both Dr Wright and Ms Veth?

DR BUDOWLE: Again, revisiting the two types of categories of samples, generally speaking, are reference samples and evidence samples.

With reference samples, efficiency is not always the requirement because you have copious quantities of DNA most of the time, and so therefore, the efficiency may not be necessary to meet. And it can perform less but faster/better - faster/cheaper may be okay for those. However, for casework, every sample is critical and very limited and you want to get the best yield possible. So that, moving forward, based on the data that were presented in Project 13, was not responsible, and that can cause problems in subsequent casework in reducing yield and reducing results that could be useful, both for inculpatory and exculpatory comparisons.

MR FOX: Professor, any comments you want to make in addition to what has been said on that topic so far?

ADJUNCT PROFESSOR WILSON-WILDE: Yes, thank you. I think probably the only thing I would add - I'll just support the concept around a proper approval process is necessary prior to implementation. That should have been done before.

I was also quite concerned around the dates issue, it just looked like a lot of that data was being put into the report post implementation, which is highly unusual and not consistent with good practice.

The other thing I would probably suggest, reading the report, is it indicates some of the critical thinking might not have been there, some of the data isn't consistent across the report, and that really should have raised a red flag or at least should have been explored further or explained. So that's probably the only thing I have to add

to what the other scientists have already discussed.

THE COMMISSIONER: Can I ask - there are two matters that arise out of that, and I'm not sure - it is a factual matter, Mr Fox, I'm going to address it to you. I can't recall the exact detail at the moment but I thought there was some evidence yesterday from Mr Nurthen as to what was the method applied when they first started in terms of different classes of samples initially, with a distinction drawn between break and enter type of things and major crime, and I don't know if these witnesses can answer that, because it was a factual matter that we're going to have to track through, I think it may have to come from records or something, to work out whether that happened.

The other one was I think Mr Nurthen, in terms of proceeding with that method, I think gave some evidence, and I'm trying to summarise it and I may not get it a hundred per cent right, of course, that they weren't as worried about proceeding despite the yield data in Project 13 because he formed the view that the comparison was with the manual method, but that he had an opinion, or there was a view - I don't know how to characterise it - that the quality of the DNA was so much better with this method over the previous method that he was - and that they were going to amplify everything, that he was still content - that's not his word, that's mine - to proceed using it, because it was still sufficient for purposes, I suppose.

That's just a summary, perhaps, of what he was saying, but it was because it was his comparison of this methodology with the Chelex methodology gave - he accepted it was less quantity but higher quality - he said higher quality. So I just don't know if these witnesses can answer that. I don't know - Dr Wright, thank you, I will come to you - because I think what you have just all said raises that issue. It doesn't get over it, if you know what I mean, because if there was any major crime scene - obviously, the principle is correct, you can't afford to lose, I think Dr Wright used the word "precious" samples, and I think some of the other witnesses also described them in that sense. But I was just - I think Dr Budowle called them critical and limited, so you understand the issue I'm raising now. If you can help me clarify that, I would find that very, very helpful, Dr Wright.

DR BUDOWLE: I might be able to help you with that. Any time when one --

THE COMMISSIONER: Okay, we'll go to Dr Budowle.

DR BUDOWLE: Okay, I'm sorry. Yes, any time one wants to make a comparison to a previous procedure, one needs to take DNA prepared at the same time and run, say, the Chelex procedure side by side with the new or intended procedure to be tested, because you have to know you have the same samples, created under the same conditions, and then you need to apply those results, as well as some other performance issues that happen when you're using different extraction procedures, which I'll mention in a minute. So when you run it, you do side by side so that you can have a controlled experiment with the same samples, the same process.

Saying that "I had a procedure run previously that was low yield" has no meaning if it's not run with the same samples. So that's, again, a lack of this controlled experimentation that we've seen in there.

The other is, Chelex is a procedure that uses - that has been used for many years. It doesn't always clean up the samples well, so the downstream performance can be impacted one way or the other. So you would want to run them side by side to see if the downstream performance - the generation of the DNA profiles, the amount of signal, the quality of those - are also impacted in a side-by-side experimentation.

This is just, again, just another example of not doing it in a controlled fashion to be able to make those statements that Mr Nurthen - that you said he made yesterday. So I just see it's the same kind of problem with not doing a proper study.

THE COMMISSIONER: Yes. I don't think it derogates at all from the opinion about the methodology of the validation; it was, rather, he gave - it was the evidence that he gave about his thinking at the time of why they proceeded.

I very much appreciate that answer, Dr Budowle. It doesn't take away from the objective manner of the way in which it should have been done that you have described, but I was just trying to see if anyone could help me with the -

yes, if anyone else can help me, but I think Dr Wright wants to make an observation about that as well.

DR WRIGHT: The evidence from Ms Ientile was that it was a staged approach to introduction, they didn't just start using that --

THE COMMISSIONER: That was her evidence. I forget who said it. Somebody said it yesterday.

DR WRIGHT: Yes, it was Ms Ientile, and they started with the volume crime and then they started to introduce other kinds of samples.

What struck me yesterday was that there was, I guess, a lack of concern about introducing the method and you're right, Mr Nurthen didn't express a concern because he thought that it was comparable with the Chelex method, and Ms Ientile also made that comment, that the kind of yields that they were getting from even the automated method were comparable.

THE COMMISSIONER: I don't think they used the word "comparable"; I think it was rather the concept that they could still be useful. I mean, you know --

DR WRIGHT: Yes, they were still getting sufficient DNA, they thought, to be able to generate a DNA profile. But my statement - I did a comparison, it's figure 4 in my statement, page 18. The automated DNA IQ method, so the Project 13, and then later on the Project 21, was actually recovering half as much DNA as the Chelex method, and what is interesting - I'm not sure if we want to --

THE COMMISSIONER: My question - I don't think anyone is disputing that the quantitative yield is less, but the evidence yesterday was that it was quantitatively less but qualitatively better.

DR WRIGHT: Yes.

THE COMMISSIONER: I think Dr Budowle has just also said, I think, as I understood his evidence, that Chelex does have problems with that. I'll come to you in a second. I'm going to say "Dr Wilson-Wilde", it is a lot easier than the longer sentence of "Adjunct Professor", if you don't mind, if you're happy with that. Sorry, I will let

Dr Wright finish.

DR WRIGHT: No, I agree that the DNA IQ method does provide a cleaner sample. I do agree with that.

THE COMMISSIONER: Right. Yes, Dr Wilson-Wilde, can you help me with this? It is just to try to put that evidence into the context of what we're talking about here.

ADJUNCT PROFESSOR WILSON-WILDE: Sure. Probably not directly in the sense that I have found no evidence, with the documents that I have received to date, of a direct comparison between the Chelex method as it was used and then the implemented method as it was used, and so that --

THE COMMISSIONER: The implemented automated method.

ADJUNCT PROFESSOR WILSON-WILDE: Yes.

THE COMMISSIONER: Because one of the earlier projects compared Chelex with the manual, I think.

ADJUNCT PROFESSOR WILSON-WILDE: It did, but the manual method was a different method again.

THE COMMISSIONER: That's right. No, I understand that.

ADJUNCT PROFESSOR WILSON-WILDE: It goes to the point of using - reducing all the variables down and so ensuring you have the same blood samples taken at the same time, as Dr Budowle mentioned before. However, I do have - I can point you to it because I don't have a recollection of any other detail other than I am aware that there was an exhibit in Inspector Neville's statement in the first Commission of Inquiry that talked to success rates from blood swabs over the different years when the different methods were in place. So it's a pointing to that that may assist you in some way, but --

THE COMMISSIONER: Thank you. I think from what I have understood you to be saying, that may have been in the mind of the people doing the validation, if we can call it that, in inverted commas, but even if that was the case, even if it was theoretically possible to retrieve sufficient DNA or that the DNA retrieved was sufficient to test, it was not acceptable practice to just go ahead and do that without doing the sort of control that Dr Budowle talked about,

which would have been to compare it directly - the various steps you would take to compare it directly with the Chelex method and to actually do it on a step-wise process, which is the system you have described earlier; is that a fair statement? Does that sound reasonable? Dr Wright?

DR WRIGHT: I would suggest that the automated method that was introduced would not obtain DNA profiles when the Chelex method would be expected to, based on the yield differences but that's at the lower -- -

THE COMMISSIONER: But we don't know. The point is we don't know.

DR WRIGHT: At the lower scale.

THE COMMISSIONER: We don't know. I mean, as I understand it, I don't think there is a dispute that the quantity was a lot less.

DR WRIGHT: Yes.

THE COMMISSIONER: What we don't know is a side-by side comparison that Dr Budowle talked about.

DR WRIGHT: Correct, yes.

THE COMMISSIONER: Which is a direct comparison of the larger, less qualitative Chelex method and the lower quantity, higher quality automated method. We just don't know.

DR WRIGHT: Yes.

THE COMMISSIONER: That seems to be the problem - a problem.

MR FOX: Indeed. Thank you. So just in relation to the Commissioner's two points that were raised, that's in - firstly it was about the different classes. Was it appropriate to proceed with respect to different classes of crime?

Just so that, Commissioner, you are aware, this is in the vicinity of pages 81 and 82 of the transcript from yesterday, and Mr Holt's question was:

In other words, go-live involved a relatively small part of the workload, probably not by numbers, but lower-volume crime, not dealing with that major crime material, and there was to be a process of optimisation that you were to lead in that respect?

Mr Nurthen said:

Possible. I don't - I didn't recall the volume crime being the only samples, I just assumed that all the - all of major and volume were going on there, I don't actually have a recollection of that.

So I think that's really the clearest that the evidence was on that.

Do you wish the experts to comment any further on that, Commissioner?

THE COMMISSIONER: No, I don't. I think the expert comment on that has been given.

MR FOX: Thank you, it's sufficient. Could I then just indicate that I did say I would come back to this, this is the file notes that were taken by Ms Ientile, this is just on the eve of going live, and these are exhibits to Mr Nurthen's declaration, or statement.

You will recall his evidence - it was in his main statement at paragraph 89 - where he said that he had raised with Ms Ientile these concerns about low yield and that, having raised it, the decision was, nevertheless, taken to go live. I just wanted to invite Ms Veth, firstly, you are familiar with that evidence; is that right?

MS VETH: Yes.

MR FOX: Would you like to pass any comments you have to make in relation to that interaction between Mr Nurthen and Ms Ientile and then the decision that was made to go live from that point?

MS VETH: Only that I don't understand the decision. It

certainly wasn't supported by a completed validation document, and clearly there were concerns held by Mr Nurthen about the performance of the method. Other than that, I can't speak for anyone about, you know, in terms of why they made the particular decision.

MR FOX: Thank you.

Dr Budowle, do you remember that written evidence of Mr Nurthen and also those two file notes of Ms Ientile, and if so, would you venture into the territory of making your observations in response to that?

DR BUDOWLE: I think I already raised that issue earlier. They're scant notes, so I don't know all the communication or what was actually said in there. All we have is that there is some yield issues, and given that the yield was a problem raised, I don't know what other decisions were made or what samples might have been considered, because, as we said, if it was just reference samples, known samples coming from a source, one could say, "Let's go ahead then and move forward and optimise", and maybe that's a thought.

The other is if it was for everything, that would be more problematic and not supported. So all I can say is the notes themselves don't suggest a sound decision, given it would be applied to all samples.

MR FOX: Professor, your observations?

ADJUNCT PROFESSOR WILSON-WILDE: I would have preferred to see a completed and approved validation report prior to any implementation, and so it's not a decision I would make.

MR FOX: Dr Wright?

DR WRIGHT: It was TN30 where Mr Nurthen quantified his concerns in terms of the difference of yield between the automated and manual, and he conveyed that to Ms Ientile as being 50 per cent. So he's raising very significant and valid concerns, and in his statement, he explains his thinking at the time, saying, "My concern was that the yields would not be as sensitive to extract lower amounts of DNA." So that suggests to me that Mr Nurthen was very aware of the significance of the difference in yield and the impact that that may have on crime scene samples. So that decision to implement that method definitely should

not have been made.

MR FOX: Can I then turn to the related topic of - I used the word yesterday in the oral evidence - "persistence" - that is, persistence with the automation, going live and beyond. There was the contamination issue, which was dealt with at some length before the first Inquiry, though. When I raise the notion of persistence, I'm really talking about the period where there had been the decision to go live; there's contamination that arises, it's then brought offline. It is really in that period, July 2008 - so October 2007 to July 2008. There's a topic about persistence beyond that, but we will come to that separately when we talk about reimplementation.

So I just wanted to invite, firstly, the Professor in relation to that earlier period, October 2007 from going live to July 2008, when it was pulled off: do you have any observations to make about the way in which the laboratory automation team itself persisted with this whole process of automation?

ADJUNCT PROFESSOR WILSON-WILDE: It's not a process I would advocate for. Again, I would want to see that there was a direct improvement by direct study compared to current methods before going live. I would want to see a fully validated system whereby you understand the working limits of the method that you are operating, limitations. There should be repeatability, reproducibility, studies to look at the validity and reliability of it. I don't think there was enough information in that report for the scientists to understand that, and I don't think that's something you can do post implementation, and so it's not an approach I would take in implementing a method of that nature.

It's really hard - I don't understand why it was done that way.

MR FOX: Dr Wright, would you like to venture into the territory of persistence with respect to that particular chronology, that particular time frame that I was describing earlier?

DR WRIGHT: Yes, so between October 2007 and July 2008, there's no evidence to suggest in that time period that any significant adjustments were made or that the yield issue

was fixed. The last information of the Project 13 report is dated August 2008, so that's post that July 2008 period, and from what I heard yesterday in the testimony, Mr Nurthen said, as new tweaks were done, as new data was being generated, they would drop it into further iterations of the report. So I would have to just rely on what Mr Nurthen said and rely on that August 2008 report, which still shows there hadn't been any significant improvements made. So, yes, I do believe in that period that you have suggested, it wasn't working and it absolutely should not have been used on any kind of casework samples.

MR FOX: Ms Veth, would you like to add your observations in relation to this topic of persistence in that October 2007 to July 2008 period?

MS VETH: I don't have anything to add. It's very strange to me that the method was implemented based on the very little data that they had, which did not support implementation.

MR FOX: Dr Budowle?

DR BUDOWLE: I don't have anything more to add on this topic.

MR FOX: Thank you.

If I can then turn to the reimplementation report, and just before I do that, so we're now moving across, beyond the contamination area that was dealt with by the first Inquiry, and we're in the period around early 2009, when the decision was made, eventually, to reimplement, and I think it was in August 2009 that it officially was reimplemented. Before I get you into that territory, because the chronology is now moving on, is there anything anybody wants to say up to that point to add to anything that has been said previously on the topics discussed?

DR WRIGHT: No, only that it appears that they were very concerned with fixing the method in relation to the contamination issue and the changes that were made appear to be focused at fixing the contamination issue, you know, post that period and prior to reimplementation. There is no mention and no documentation stating that there was a dual aim, to also fix the yield issue. There's nothing documented or no document that I could find that stated

that, in that period.

MR FOX: Thank you. Unless there's anything further, we will move into the reimplementation report.

So this is, Commissioner, at item number 29 of the tender list, and it's, for those of you who have Mr Nurthen's first major report, it's the exhibit TN32, it's the report dated April 2009 [LAY.010.011.0624].

Firstly, could I just confirm that -a nod is fine - everybody has actually read it and comprehended it?

(Dr Wright and Adjunct Professor Wilson Wilde nodded)

Dr Budowle, you have read the implementation report?

DR BUDOWLE: I haven't gone in depth on that but I'm going to have to pull it up to refresh, so just start with someone else and I will get back to you. Which TN number was that again?

MR FOX: TN32.

DR BUDOWLE: Okay.

THE COMMISSIONER: Ms Veth, have you read it?

MS VETH: Yes, I have.

MR FOX: Ms Veth, you've read that?

MS VETH: Yes. Yes, I have.

MR FOX: Sorry, Dr Budowle, you had something to say?

DR BUDOWLE: No, I just said I read it when I went through the documents but I have to go back and recall what it is to give you more detail, so you can come back to me in a minute, I guess.

MR FOX: Thank you.

So firstly, can I start with Dr Wright. Would you like to just provide your introductory observations in relation to the reimplementation report, what it says and what you understand it's endeavouring to achieve?

DR WRIGHT: The stated aims of the report seem very focused on testing the measures taken to fix the contamination issue. They do talk about efficiency, but they don't clearly state that there was a DNA yield recovery issue and measures were taken to fix that. So it does seem to really be directed at testing the changes made to fix the contamination issue.

There is one section of the report - and Mr Nurthen refers to figure 8 on page 14 in his statement, and he refers to this figure as a reassurance of the changes that had been made to the protocol seem to have resulted in, you know, exceptionally well or very good yield recovery. And you can see it at first glance of figure 8 in TN32, it appears to have 100 per cent recovery rate, and even down to very low quantities. So in his testimony yesterday, he seemed to have reassurance that that experiment was done and those results were obtained.

But when you actually look at the method, the actual experiment that was done to generate those results, they used genomic DNA, so in other words, they purchased --

THE COMMISSIONER: I think we went through this yesterday, Dr Wright,

DR WRIGHT: Yes.

THE COMMISSIONER: I'm sorry to interrupt, but I think that was clarified with Mr Nurthen yesterday, that that was a known quantity, it didn't do the same thing, and that it was - yes, I think he called it an efficiency control.

DR WRIGHT: Yes. So that alone - it didn't test the end-to-end DNA extraction process, and it was a deviation of the way that they did their sensitivity studies in projects 9, 11 and 13. So they didn't extract --

THE COMMISSIONER: It wasn't - I think he conceded yesterday that it wasn't - it didn't deal with extracted DNA.

DR WRIGHT: Correct.

THE COMMISSIONER: It was dealing with a known - it was a control that dealt with a known quantity of DNA just from

putting that through the system. I think we went through that yesterday.

DR WRIGHT: Yes. So nowhere else do they perform any other experiments that actually test the end-to-end extraction process. So that was my main observation with the reimplementation in 2009. There's still no data to demonstrate that the entirety of the DNA extraction process was working.

MR FOX: Ms Veth, would you like to add your comments on that reimplementation report?

MS VETH: I mean, clearly this report is more thorough than the original Project 13 report. It did have a stated purpose, to try and overcome these contamination issues, and I think they went to a lot of effort to do so. And I agree with Dr Wright, that this sensitivity study isn't really comparable, and we still don't know what sort of yield this particular method is generating, based on this particular study. That's all I really have to add.

THE COMMISSIONER: The yield - are you agreeing, Ms Veth, that we don't know the yield with respect to any extracted sample?

MS VETH: Exactly. Exactly.

MR FOX: And Professor?

ADJUNCT PROFESSOR WILSON-WILDE: My concern about this study is that it's largely a study around contamination and given the number of changes and the significance of those changes that they made between the previous method and this reimplemented method, I would have preferred to have seen a full validation of it. It should have had the full sensitivity, repeatability, reproducibility, it should have had the full study, you know, casework samples, mock casework samples, et cetera, that that validation study should have been compliant with current practice and current guidelines around validating automated methods.

So for me, this wasn't a validation either, and I think that's a really key aspect. Whilst I acknowledge that they did look at the on-deck component of it, I agree that you do need to test the end-to-end process and have that comparison to your current method as well, and I don't

see any of that either. So I think for me, this reimplementation is not consistent with good practice either.

MR FOX: Thank you.

Dr Budowle, I appreciate you haven't turned your mind in detail to the report. You may not wish to add any comments. Do you wish to --

DR BUDOWLE: Yes, I went back to brush up on this. I focused on the same issue that has been discussed by the three other experts here. But I'm a little troubled with the explanation that this was just an efficiency test, because I'd marked on my copy the interpretation, which was:

> *Testing results indicate that the modified automated ... procedure is very sensitive and able to isolate low copy number DNA samples at a very high recovery rate that is close to 100 per cent.*

And then again:

> *... the modified ... procedure will be able to recover most if not all of the DNA that is present in a sample.*

That's very different than the explanation of just trying to test the efficiency of purified DNA. So reading the report, I come to a different conclusion than what has been discussed or may have been discussed yesterday by Mr Nurthen, if that's what accurately was portrayed, that it seems that this was an experiment to justify sensitivity of the assay and you can't do that with the test that was performed.

MR FOX: Thank you. So if we know that this report having been produced, this appears to be the basis to justify the reintroduction of the automated system. I used the word before, "persistence", when we looked at the question of October 2007 to July 2008, I'm going to revisit that notion now.

So we know that the laboratory persisted from the time of this reimplementation report, and, indeed, come,

I think, 20 August 2009, there is actually the reintroduction of the system.

Can I firstly ask, Dr Wright, your comments in relation to that notion - that is, the persistence of the laboratory with the reintroduction, despite the observations that have been expressed by all four of you regarding the nature of this particular report?

DR WRIGHT: Do you mean the ongoing use of it from 2009 onwards?

MR FOX: Yes. So we know that the laboratory has formed the view that this document is a basis upon which they can be satisfied that there should be a reintroduction of the automated system. You have all made various comments about inadequacy of the document. Nevertheless, the laboratory chose to go forth and use it. Do you have any observations to make about their persistence with it going forward from that point?

DR WRIGHT: There is still no proof that any further improvements were made post that October 2009. So there still seems to be no documentation, no research done to improve the method between 2009 and 2016.

A question was asked of Mr McNevin in terms of he was the manager of the analytical section where this method was being used, and with any method, you have positive and negative controls - positive controls are samples of known blood and known cells, you are expected to get a result, you put those samples on a batch of crime scene samples, and if that positive control has passed, you should get a profile.

And I think, Commissioner, that was a question you asked of Mr Nurthen, whether the positive controls had been working, because I think that's a really good indication of how this method was performing. But what Dr Budowle and Ms Veth and I found in the 2006 - sorry, in the module 6 for the 2022 Commission of Inquiry, we looked into this, because it appeared as though the Shandee samples, the positive controls were passing, and passing quite spectacularly. But when we dug into it, we found that the analytical section wasn't appropriately checking their positive controls. They were checking the final graph at the end; they weren't checking the concentration value of

the positive controls.

Now, you would expect, if you checked the final graph and it looked great, it should all be fantastic, and it fooled me, I originally saw the positive controls and thought they had passed. But what they were doing is, if any sample, a crime scene sample or a positive control, resulted in a low concentration of DNA, there was an automatic software method that would tell the next step of the process, which is the amplification, to simply put more DNA in. So if a positive control was failing, you wouldn't know, because the automated process, this software, would say, "Okay, instead of adding 1 microlitre, add 15".

THE COMMISSIONER: The added DNA that you put in, that would not be the sample DNA?

DR WRIGHT: Yes, so the sample of the positive control, you can add up to 15 microlitres in amplification.

THE COMMISSIONER: Yes, but that - so you would add to the positive control sample?

DR WRIGHT: It's how much of the positive - the extracted positive control sample you would add to your amplification. So you could add up to 15 microlitres. But what was happening in the laboratory --

THE COMMISSIONER: What about the test sample?

DR WRIGHT: Yes, as well as. So the quantitation step indicates how much DNA you should add in your amplification step. If it is a really rich source of DNA, if you have a lot of DNA, you might only add 1 microlitre, because you don't want to over amplify. I called it the Goldilocks principle, you know, not too much, not too little, just right. So that's what the concentration does. So there was software to work out, based on the concentration we're observing, how much of that sample should you then put in your amplification.

THE COMMISSIONER: Would it make the same decision for both the control and the test?

DR WRIGHT: Yes, and that was the problem. So if the positive control was actually failing, as in only obtaining that very low concentration, this software would say,

"Well, we had better add 15 microlitres in there, the maximum amount", and, of course, you get a lovely profile at the end. So they weren't checking the concentration values, and what we found in our analysis in module 6 is that quite a lot of - and this is in - we had a year's worth of data from 2012 - quite a lot of the extraction batches, the positive controls, are actually failing. And, sorry, Dr Budowle and Ms Veth, I probably didn't explain that as well as either of you could, but do you have anything or any further explanation of what we found?

MS VETH: No, you're quite correct. I know that I also was a little bit fooled by the comments that the positive controls were passing without actually having - for the longest time in our work for the previous Commission, we didn't have the quantitation data, but when we got it, we sort of saw straightaway that there was an issue with the concentrations of some of the positive controls that obviously should be a reasonably rich source of DNA but that they appeared to be having - appeared to have low concentrations compared to positive controls extracted using a different method. I'm sorry, I've sort of lost track of what --

THE COMMISSIONER: I don't quite understand that. When you say - I mean, there is the extracted DNA, which is in the test sample, and the control, which is a known amount of DNA, that is not extracted; it's just an amount of DNA you put in, isn't it?

MS VETH: No. An extraction positive control is normally a sample of blood and it is extracted along with the batch of samples. So it is treated exactly the same way as the test samples.

THE COMMISSIONER: I see. Okay, sorry, I understand. So this is not the sort of test that TN32 is talking about? That's not --

MS VETH: No, we're talking about actual casework.

THE COMMISSIONER: Right. So the positive control is extracted at the same time as the sample to be tested.

MS VETH: That's correct. And if there is a problem with the positive control results, then that indicates that there may well be a problem with the extraction as a whole.

THE COMMISSIONER: Sure, I understand.

MS VETH: Or some part of the extraction.

MR FOX: Thank you. While we are with you, and I don't want to cut Dr Wright off - sorry, Dr Wright, I probably should just check, did you have anything more that you wanted to say? I appreciate there was a bit of an exchange there. I wanted to move into the point about persistence.

Ms Veth, you heard the question earlier on about persistence and there's been the dialogue between yourself and Dr Wright. Do you have any observations to make about my point about persistence with the reimplementation in light of this particular report?

MS VETH: Only that 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.

MR FOX: Dr Budowle, would you like to venture your comments, please?

DR BUDOWLE: I'll add on to Johanna Veth's comments. We all have ideas in our heads of how something might work or not work when we set up experiments or - and, yes, then we set up experiments to determine whether or not those hypotheses are supported or rejected, and if we don't have the data for it, and in this case, we don't have more, but it also speaks to a deeper problem and it is about quality assurance and quality control in the laboratory, because when one looks at the samples, the control samples, and, as has been said, things were adjusted to make them all look like they are running well, it was only looking at things one dimensionally, and so we have to be concerned that maybe the laboratory didn't have a full appreciation of what a quality system is, and so some things fell to the wayside that might have been better with all the proper kinds of studies and documentation that would be needed, and maybe perform more on "This is my belief" and went

forward. So that's where I think a big gap is in the implementation - with the testing and then implementation.

MR FOX: Thank you. Finally, Professor?

ADJUNCT PROFESSOR WILSON-WILDE: Thank you. Yes, there seems to be a lack of recording the experiments or the work that they have done contemporaneously, and so, you know, there was lots of discussion around exactly that, but there is no real record of it. And whilst I was pleased to see them go back to a manual lysis step in the process, which means that they are essentially going back to the manual method for at least a portion of the process, I don't see them having thoroughly tested that in a way that I would have preferred. And so - and then documenting it, et cetera. So it's really hard to make a comment on what they have done, because they just don't seem to be having that level of quality record keeping, et cetera, that I would expect at the time.

MR FOX: Thank you. Now, I was going to move on from the reimplementation report to a further topic, but I think we're nearing the end of the first major area of discussion for this morning, and indeed, that's the major topic for the whole of our concurrent evidence. I nearly said the dreaded phrase, but anyway, but unless there is anything further that anyone wants to make about - comments about the reimplementation report, I was going to move to a new topic.

ADJUNCT PROFESSOR WILSON-WILDE: Could I just make a comment more generally? In terms of a lot of these projects, the other thing, in addition to running the methods, the old method/new method, you know, or proposed changes, et cetera, I would have also preferred to see all of the analysis, or at least the major ones, run through from beginning to end, to profile generation, and that would have elicited a little bit more information around what was happening.

I think some of the design of some experiments is not what I would like to see in terms of being able to analyse the information that has been generated to see, if you have a problem with the process, so you are not getting the yield that you would like to, a slightly different design of the study, running it through to profile would actually tell you where or give you more information about where the

issue might actually lie.

Because there is so little information, you can't tell whether some of the problems might be with the samples that you are using, because of multiple donors - how were they using those? Are they using one donor for one experiment, another donor for another? Is there something, maybe a little thing, that's going wrong with their quantitation step? Is their standard curve still applicable? Because that's really important for calculating out your quantitation values. You know, the cell count, how is that done? If I was seeing a systematic low level of DNA from particularly blood samples, but it's okay from buccal samples, then that would make me want to have a look at the blood samples themselves and maybe get them analysed independently by another laboratory with another method, just to make sure it's a comparable amount.

That was where I was coming back to that critical thinking component, about looking at the data, looking at the data generated across different aspects or different studies within the one project, to see if the results actually make sense for what you think you should be getting, and if there is a result that's not quite what you expect, actually digging down and seeing why that might be and not just relying on adjusting the components of the test that you are doing, but looking at it from an end-to-end process about what other components within that process might also be affecting the results. So that's probably just a kind of general thing, and it plays in the part where there are experiments where there are multiple variables at play, so you've got a result but you can't tell what variable has elicited that result. There is a little bit of that in there. It is really hard to pull out the meaning of some of those experiments.

MR FOX: Dr Wright, did you have anything you wanted to add before we move on.

DR WRIGHT: Yes. It reminded me of something that Dr Hlinka raised yesterday, which I thought was interesting, they chose to use just the one protocol on blood and cells across a wide variety of substrates and the comment was made that that was preferable, if you have one method, you only have to do one validation rather than do a validation for blood, a validation for cells, a validation for tape-lifts, so that's what they seemed to

persist with, and I just wonder if - again, I'm speculating - whether, you know, that was some sample types suffered on a particular method that wasn't suitable for that particular substrate or that particular biological type. Some labs have a specific protocol for blood, a specific protocol for cells and so forth. So some of the sacrifices that may have been made by just having a one-size-fits-all DNA extraction method might have been that some sample types were not performing as well as they could have if they had their own optimised method.

Mr Fox, were you moving away from Project 13?

MR FOX: Not at all.

DR WRIGHT: Okay.

MR FOX: Not entirely. I will provide an opportunity for any residual comments on Project 13 when we get to all the various topics that we will hopefully tick off in everyone's minds as to things they want to say.

Can I then move to one issue, which is about Project 70. This came up yesterday. Mr McNevin was asked some questions about it. I'm not sure the extent to which, Dr Budowle, you are familiar with this Project 70, which is in 2011, it was a report that was prepared, which was a verification of the Promega DNA IQ for the Maxwell 16, so the different automated platform that was being used instead of the MultiPROBE. Is that a report that you are familiar with? We can identify where it is in the evidence if you would like.

DR BUDOWLE: Yes, it's one of the reports that I was provided and assessed in the original Inquiry on DNA. It was focused on DNA concentration issues in the original Inquiry.

MR FOX: Thank you for indicating that. And Ms Veth, you would be familiar with that, of course, from the dialogue that occurred yesterday, as will the Professor and obviously Dr Wright.

Can I just indicate in relation to that, Mr McNevin gave some evidence about what the nature of the particular report was and what it was - the methodology it had engaged in and the results it had achieved. Because we have you

here together and part of it was to obviously provide comments in relation to what you have read and heard yesterday, I didn't want to glance over or gloss over that particular aspect of the evidence. So perhaps I might just start firstly with Dr Wright. Is there anything that you would like to say in response to what you heard yesterday about this particular topic?

DR WRIGHT: Yes, I acknowledge that Mr McNevin appeared to have only seen that document for the first time that morning or that day, so he was genuinely trying to refresh his memory and go back and understand what was happening. It was back in 2011, and in 2011, they introduced a different robot, and what they were doing is comparing the MultiPROBE robot and the new robot, and there seemed to be some uncertainty about which method was used in Project 70 for the MultiPROBE, and I suggested, based on the SOP number or the standard operational procedure number that was in Project 70, that it was the automated method, you know, the 2009 implemented one. Mr McNevin thought it was the manual method. But Mr Fox, are you able to confirm if that was --

MR FOX: That's what his evidence - his evidence was that it was a comparison between the manual method and not, essentially, the automated method, I think that was really the off-deck lysis, so what was described as the hybrid version.

DR WRIGHT: I checked the SOP number last night and it was the hybrid, manual/automated method, so in figure 5 of that Project 70 report, they are doing a comparison, a sensitivity comparison between the new robot and the MultiPROBE robot, and Mr McNevin was asked to comment on that comparison, and he used the analogy of, if you are painting a house, you know, it doesn't matter if you've got 10 litres, if you only need 5 litres, you've got some left over. But Mr McNevin was focusing on the right-hand side of the graph, which is where, you know, you've got mock samples that have quite a lot of blood on there, and I absolutely agree with what he said, that at that higher range, in this study, at least, anyway, they were getting enough DNA to be able to obtain a profile, but it is the samples on the left-hand side of that graph, what I call your more trace samples - they were comparing the new robot and the old robot, and the new robot was getting eight times - up to eight times more DNA than the MultiPROBE. So

that suggests to me in 2011 that there's still an issue, and this is empirical data - still an issue with the MultiPROBE robot and we're able to quantify that difference or that impact compared to the Maxwell robot or the new robot.

So it really is those lower quantity samples where we're seeing a genuine difference.

MR FOX: Just in relation to the - you mentioned about the SOP or the standard operating procedure number, that's 24987 - 24897. I want to tease out where the references are. I will just lead you through this. On page 4 - you have the report?

DR WRIGHT: I've only got parts of the report but I will take your word for it.

MR FOX: We will be able to pull this up. I want to show you where the references are, and if I've got the wrong ones, you will let us know. So on page --

THE COMMISSIONER: This is on the same document? It is this document we're talking about?

DR WRIGHT: Yes, Project 70.

MR FOX: On page 4 of the document, heading 5.2 "Extraction", in the second line, it appears to make reference to QIS24897. Do you have that?

DR WRIGHT: I'm sorry - thank you. Yes.

MR FOX: Is that one of the references that you are giving?

DR WRIGHT: Correct and that appears to be the MultiPROBE method, the automated MultiPROBE method.

MR FOX: So what you have done is to track through - I think it is Mr Nurthen, actually, who gives all the various different versions. I will come to it in a moment, because I just want to go through these and identify them. Then the other reference that I could find was on the last page under "References", item number 5.

THE COMMISSIONER: I think Dr Wilson-Wilde might be able

to assist.

MR FOX: No, I was just wondering where the references were. Sorry.

ADJUNCT PROFESSOR WILSON-WILDE: I am going to add a level of confusion, only because it wasn't clear to me, because I think in that method there is an appendix that also refers to a manual method, and so it's really hard to then actually say without looking at the data whether it was the MultiPROBE method or the manual method. That's my only concern.

MR FOX: Did you manage to see the appendix? I must say the version I have doesn't have an appendix TO IT.

ADJUNCT PROFESSOR WILSON-WILDE: All the appendix I believe had the manual method at that time.

MR FOX: Is that something that you have seen, Dr Wright?

DR WRIGHT: The appendix?

MR FOX: The appendix.

DR WRIGHT: I don't have it with me, no.

MR FOX: Had you seen it before you expressed your view about what this actually covered in terms of what the word "manual" meant?

DR WRIGHT: I can't remember, sorry.

MR FOX: We might let you have an opportunity to check that. Are you able to check that during the course of the morning if we have a break? Thank you, Professor.

THE COMMISSIONER: Did we receive anything further overnight in relation to that from Mr McNevin?

MR FOX: No. I know it is on its way.

On that topic, Project 70 and what we have been discussing, Ms Veth, did you want to add anything further to that?

MS VETH: No, I cannot tell what method is being compared

to the Maxwell. It's somewhat confusing to me.

MR FOX: Thank you. And I won't trouble - unless, Dr Budowle, you want to say something, because it did involve some of the evidence that was given orally yesterday by Mr McNevin.

DR BUDOWLE: I was not there so I'm not sure exactly what was said, but my version of Project 70 was on the Maxwell comparison, standing up the DNA IQ system, and the issues that I identified in my report in the original Inquiry, or one of my reports, are the same that has been discussed already about a link in volumes being larger to changing - moving the lysis step before hand, adding chemicals without controlled studies, and some of the failures of the bloods compared to the buccal cells suggested that there were some more fundamental issues still to be worked out. But I don't remember the MultiPROBE as part of that versus the Maxwell.

ADJUNCT PROFESSOR WILSON-WILDE: Sorry, I may be able to assist in one other aspect. On page 7, in the third paragraph, it talks about the original validation of the manual DNA IQ chemistry gave an average yield of 3 - I think that's 317 nanograms for blood. That is consistent with the Project 11 results for the manual method of the IQ extraction. So it would indicate that the comparative analysis is between the Maxwell and the manual method, which is not good practice, I will be honest. So - yes.

DR WRIGHT: Yes.

ADJUNCT PROFESSOR WILSON-WILDE: I would suggest it's probably not the MultiPROBE, that it is the manual.

THE COMMISSIONER: You would suggest what, sorry?

ADJUNCT PROFESSOR WILSON-WILDE: It is not the MultiPROBE automated/manual method. I believe what they are actually referring to is a comparison to the Project 11 manual method.

DR WRIGHT: I agree with you, it seems strange that they are not comparing it to the method that they are actually using at the time. Why would they choose the method that, you know, they implemented temporarily back in I think 2008 and then ceased using? If it was the manual method, it

doesn't make sense why they did that comparison.

MR FOX: Thank you. Ms Veth, did you want to venture any additional comments in relation to what you have heard just then?

MS VETH: No.

MR FOX: Thank you. Now, the final topic that I just wanted to --

THE COMMISSIONER: I'm sorry, to make it even more complicated, it says at "Conclusions and recommendations", that it's also shown that this extraction procedure would give results comparable to the current routine manual DNA IQ method, which doesn't help, because the current routine method, presumably, was not the Project 11 method but presumably the automated method. So it seems to be, on the face of the document itself, including the appendix, from what I hear, it seems to be uncertain as to exactly what this comparison was meant to be demonstrating. I think - is that a fair comment?

DR WRIGHT: The point I would like to make is, regardless if it was the manual DNA IQ method or the automated DNA IQ method, it's clear from that figure 5 that at the lower --

THE COMMISSIONER: Your comments as to the sensitivity at the lower levels are still relevant.

DR WRIGHT: Yes, I think this should definitely have been a red flag to the authors to say, hey, we've got one method that seems to be working eight times better than this new robot. That should have been, I think, a trigger to investigate, well, why isn't the DNA IQ method working better? So I guess that's the only point I would like to make about that graph, there is a very clear difference. It doesn't appear as though this was, I guess, acknowledged by the authors or followed up. It was potentially an opportunity for them to investigate why there is a difference, and maybe realise that the yield issues were not fixed.

MR FOX: Unless there are any additional comments from either Dr Budowle or Ms Veth, we will move to the next topic.

ADJUNCT PROFESSOR WILSON-WILDE: Can I maybe add one more, it is just a general comment when interpreting these graphs. One of the things that is not clear from this document, and whilst there is a lot more information around the methods used and generation of profiles, and I'm very pleased to say that they have one blood donor, there is a lack of information around how they have standardised the results between the different methods. Some of the issues is these different methods have different elution volumes, so to directly compare the concentration that comes out of each of them is not good practice. The results should have been standardised and equated to what would be the concentration in the equivalent extraction volume. For instance, if you have an elution which is one elution to 50 microlitres, and you compare that, your concentration result, to a different extraction protocol --

THE COMMISSIONER: So it is not a comparison.

ADJUNCT PROFESSOR WILSON-WILDE: No. And I don't see anything in here around standardising results, and I am actually leaning towards it is indicating that they haven't. So it's just a caution, and I've seen that same approach across different validation studies as well, where they just compare the results directly without standardising the data.

MR FOX: Dr Budowle, I think you were going to venture some comments?

DR BUDOWLE: No, I was the one who reviewed this project in my paper on concentration, and we recognised a lot of issues in the design and these are just examples. You know, if you are out there studying, they used different volumes for different things, so for instance when they concentrated samples, they concentrated to 35 microlitres or to 15 microlitres, with no guidance, and so sometimes the result was compared to 15, sometimes to 35, the concentrations would be different, and so one did not know when one would, let's say - you would fire one and not fire the other, and these were consistent problems we saw. So what Dr Wilson-Wilde said is consistent with the observations we had originally.

THE COMMISSIONER: Sorry, I can't recall exactly what it was originally in the detail, but, I mean, does it come down to the fact that the purported - the conclusions based

upon those purported comparisons cannot be supported necessarily from these results?

ADJUNCT PROFESSOR WILSON-WILDE: I think you would need to go back and actually interpret the data so that you've got comparable results and account for all of the differences in making sure you've got the same amount going in and what you are eluting out.

THE COMMISSIONER: So that the comparisons - the conclusions they have drawn, in the way they have made those comparisons, cannot really be drawn from the data that they use to draw them?

ADJUNCT PROFESSOR WILSON-WILDE: Not without doing further analysis.

MR FOX: Thank you. I just want to start with - these are two questions that are directed to Dr Budowle and also Ms Veth. I will come to Dr Wright in a moment. Now, Dr Budowle, in the first Inquiry, you produced a report of 15 September 2022 in which - this is a report you were just indicating, that you were reporting on not concentrating low quantity DNA samples, and at paragraph 14 you indicate that, in commenting on a study, that the initial recovery of DNA - this is a study by QHFSS - initial recovery of DNA from blood samples in a 50 microlitre volume showed low yield. So you have looked at the topic of low yield in the context of that report.

Armed with now having seen the Project 13 report and having seen the evidence from the various scientists who were associated with that venture, your overall conclusions expressed in your 15 September 2022 report - that is, that there needed to be some exercise engaged in going back and looking at the studies and that it appeared to be that there was something wrong - you venture this conclusion in paragraph 14 - does the provision of this Project 13 report cause you to change your views or to otherwise modify them?

DR BUDOWLE: I wouldn't change my view based on the data. I think it actually just reinforces my observations in the first study, that it wasn't good validation studies undertaken, the data analyses were limited, and it's probably more of a bias-driven approach towards the goal of getting something online without proper assessments, and I think that is still the opinion I hold today.

MR FOX: Ms Veth, do you want to indicate whether it causes you to alter any of the opinions that you expressed before the first Inquiry?

MS VETH: So, in the first Inquiry, we noted that there was evidence to suggest there was an issue with the MultiPROBE extraction method, based on the limited data that we had related to the Blackburn case and the extraction control quantitation data. We were unsure if this was like a new issue with the method or whether it had been long term. Having now seen the Project 13, it seems like it was possibly a long-term issue that was never addressed. And so it doesn't actually change - going back to your question, it doesn't change what was stated in the original reports that Dr Budowle and I created for that Commission, but it does raise - it does perhaps suggest the issue was much longer term than we had anticipated.

MR FOX: Thank you. And Dr Wright?

DR WRIGHT: Yes, without access to Project 13 when we were doing our analysis on the Blackburn case, it was something that we just didn't consider, that there was a systemic failure. As Ms Veth said, we saw that there were some unusual results from the Blackburn case, and initially, as a group, we thought it must have just been for a very small period of time maybe something was going wrong, and then we asked for one year's worth of positive control data, for 2012, I think there were something like 1200 samples. Then we came to a conclusion that it was a systemic problem, but we didn't have time to trace it back to 2007, and my testimony during the first Inquiry - I gave the lab the benefit of the doubt. I said that, or I believed, that the method must have stopped failing at some stage after introduction, without anybody knowing. So that was my firm belief during the first Inquiry. Because I simply didn't consider any possibility that a laboratory would have implemented a method knowing that it had yield issues.

So I agree with Ms Veth that it appears that there does seem to be an unbroken chain between the analysis that we did for the Blackburn case and, in 2012, the systemic issues that we saw there, there does appear to be an unbroken chain or no evidence to suggest otherwise, that that failing, that systemic failing, I think, originated back in 2007.

MR FOX: Thank you. Now, Professor, you don't have to answer this question, just so that you are clear. I'm just going to give you the opportunity, as a matter of fairness. We all appreciate the statement that you have given, and because you were provided with the document but you didn't comment on it in a fulsome sense as you have indicated in your statement, but can I just ask you, then, proceeding on that footing, if you had been directed in a more fulsome sense to investigate that document, would it cause you to change the opinions that you expressed before the first Inquiry?

ADJUNCT PROFESSOR WILSON-WILDE: I will answer the question, that's fine. In the few hours that I had the document and reviewed it, obviously from a contamination perspective and given the other documentation I had, I would still come to the same conclusion, that the project was not consistent with good practice, it had lots of issues with it, and given the information I had at the time, that was probably appropriate.

However, given the information I have now and all of the other documentation and all of the experience going over years, I can see that there's - and concede that there is an issue that appears to be with the extraction process, and I also think there are a couple of other issues as well that we need to look into.

DR WRIGHT: Just one other thing I was thinking of - I actually think it would change some of my - or one of my opinions, in relation to understanding what has potentially gone wrong with that extraction process, in other words, you know, tracing it back to 2007. In relation to the Blackburn case, obviously there's the question of the retesting of the remaining crime scene samples for the Blackburn case, for the samples that were processed on that MultiPROBE. So at the time of the first Inquiry, we were confident that, at that time, the MultiPROBE wasn't working. But again, I had this belief that it must have been properly validated at the beginning so it must have been maybe a bad batch of chemicals or something like that. So the advice - my initial advice was to just go back to the extract and test the extract for the Blackburn samples.

THE COMMISSIONER: That was clarified yesterday, that going back to the extract would not, in the circumstances -

I think Mr Nurthen gave evidence and we clarified with him yesterday that going back, if there was a problem with the extraction procedure, by a matter of logic, you don't go back to the extract, you have to go back to the original sample if it is available.

DR WRIGHT: Correct. So my initial thinking at the time of the first Inquiry, without seeing Project 13, was just go back to the --

THE COMMISSIONER: Sorry, if you had said that in your original opinion, that would change now.

DR WRIGHT: Correct.

THE COMMISSIONER: I understand that, thank you.

MR FOX: I wanted then to move to the second substantive topic, but that means we move beyond Project 13 and whether anybody wanted to make any final comments in relation to Project 13.

DR WRIGHT: I just have three points, Mr Fox. It might take 15 minutes.

MR FOX: Commissioner, were you going to have a break at all?

THE COMMISSIONER: It's really up to the witnesses, in many ways and, of course, you know, everyone - you yourself, Mr Fox, have been going for a while. If anyone feels that they would prefer to have a break - I don't know how an extra 15 minutes is going to fit into your timing either.

MR FOX: I think we're pretty fine at the moment, given the early start, but it might also give Dr Wright an opportunity to consider whether she could --

THE COMMISSIONER: Condense it.

MR FOX: She might be able to condense it a little bit --

DR WRIGHT: Yes, I can condense.

MR FOX: -- in the break. If we just said 10 minutes --

THE COMMISSIONER: Let's have a break for 10 minutes and perhaps you can have a think about the matters you were going to raise and whether or not they have been covered or the extent to which they may have been covered. I'm not stopping you. I'm just saying it's always good to have a rethink when events have moved on a little bit. Thank you, I will adjourn for 10 minutes.

SHORT ADJOURNMENT

THE COMMISSIONER: Mr Fox.

MR FOX: Dr Wright has a couple of points to make, I think, Commissioner.

DR WRIGHT: Yes, Commissioner, just two documents that I thought might be relevant to here, and the first one is a Courier-Mail article from September 2007.

MR FOX: We have the document, Commissioner.

THE COMMISSIONER: Perhaps you can hand it up so I can have a look at it as she talks. That would be helpful, thank you.

MR FOX: Yes.

DR WRIGHT: There were only three sentences that I was going to read out, Commissioner.

THE COMMISSIONER: That's fine.

DR WRIGHT: So just to give you a gist of the article, this was a series of articles from 2005, 2006, 2007, about the backlog and the government pledge at the time to - I think it was $11 million over three years, purchasing the robots. This is the health minister at the time, and I will just read out from paragraph 5, it says:

> *QHSS is on track to clear the backlog of DNA cases by the end of the year.*

Being 2007. The comment that was made by Cathie Allen, who was the acting manager, at the time, of forensic biology, has backed the department's claims.

THE COMMISSIONER: Sorry, just one quick question. I'm

sorry to interrupt your reading. Is this referred to in the Sofronoff report, this factual information?

DR WRIGHT: No, this is new. I don't believe this was available for the Sofronoff --

THE COMMISSIONER: Okay, just curious, thank you.

DR WRIGHT: Yes. The acting manager at the time is saying she is 100 per cent certain they will hit their targets. Later on Ms Allen said that two more of the platforms were expected to come on line "next month", being October, and I just wanted to raise this in terms of some of the testimony I heard yesterday, that the scientists spoke about the need to implement the method to clear the backlog, and I think that this paints a picture of the pressure, the distinct pressure they were under, and now there seems to be a finite - these robots are going to be implemented in October. So I think this - scientists should not be affected by external pressures to complete their work. They have to complete it to a standard that they're happy with. But I just wanted to raise this, because it appears like there are some very serious external pressures that are being placed on the scientists and the lab.

THE COMMISSIONER: Yes, I understand what you're drawing from this. I'm not sure how far one can draw conclusions as to what was happening day-to-day in the lab from this.

DR WRIGHT: Yes.

THE COMMISSIONER: But I note the context that you're raising.

DR WRIGHT: Yes, thank you. And just the second document relates to Ms Ientile's statement dated 28 October 2023, and its attachment 2.

THE COMMISSIONER: We'll have to try to get that up. I don't have her attachments with me. I have her statement but not her attachments.

MR FOX: Could we ask for that? It's item 58 in the tender list.

THE COMMISSIONER: That's her statement?

MR FOX: No, it's the attachment 2.

THE COMMISSIONER: Yes, I don't have the print-out, but we will bring it up on the screen.

MR FOX: That's right, yes.

DR WRIGHT: Please go to the document that says "DNA IQ system" --

THE COMMISSIONER: Do you have a page number for it?

DR WRIGHT: It doesn't have a page number, but it is attachment 2. It is a very short document. It is just the "FSS" --

THE COMMISSIONER: Wait until we get it up. What's the heading of it, if we want to search for it?

DR WRIGHT: "DNA IQ system for Promega". It appears to be the fact sheet, it's dated October 2007. It's a fact sheet that appears to have been given or distributed to the lab about the new DNA IQ method.

THE COMMISSIONER: Okay.

DR WRIGHT: Which isn't unusual.

THE COMMISSIONER: Let's wait. If we get it up first, I think that might be helpful. Is that it?

DR WRIGHT: No, I think it's before that. It is a statement that she provided on 28 October. I think it is in total probably six pages.

THE COMMISSIONER: We are not in that document at the moment. Is that it?

DR WRIGHT: Do you want me to show them the hard copy so they can recognise it?

THE COMMISSIONER: Sorry, is that the beginning of the document that's up on the screen at the moment?

DR WRIGHT: No, I think there is about a four- or five-page statement and then there's some attachments.

MR FOX: It's [LAY.010.025.0001].

DR WRIGHT: Yes. I think it is either scrolling up or down to get to the fact sheet, but I will come back to that email.

THE COMMISSIONER: Was it attached to this email?

DR WRIGHT: I think there are two documents that have this email in it.

THE COMMISSIONER: This is the attachment 2. So is the document you want following on from this email?

DR WRIGHT: Yes, I think it is either above or below, but I know there is another attachment with this email in there, but attachment 2 is consistent with what I have.

THE COMMISSIONER: It is probably the next page, or the previous page. I see; they are all separately loaded. .

MR RICE: Commissioner, I think I have a page number, if that's helpful.

THE COMMISSIONER: That would be very helpful.

MR RICE: It is [LAY.010.024.0002], and I think it's actually part of attachment 1, rather than attachment 2.

DR WRIGHT: Thank you.

THE COMMISSIONER: Is that it?

DR WRIGHT: That's correct. I just want to draw the attention to the figure in the bottom left-hand corner. This appears to be a fact sheet, it's dated October 2007, that was distributed by Ms Ientile to the DNA lab, and that shows in comparison to the Chelex method, the box in the green, the DNA IQ method appears to be working really quite well. I think that's really important to demonstrate, because if I'm a forensic biologist, I'm adopting a new method or I'm going to start reporting on samples that have been generated by a new method, I want confidence that that method is going to work, because when I testify, I need to outline any limitations.

So this graph appears to be very reassuring to the staff, in terms of, "Hey, our existing method with Chelex, DNA IQ is performing much better." But if we could go back to the email that we had previously, which was attachment 2, please, and I only found this a couple of days ago, so I apologise it's not in my statement. This is an email from Dr Hlinka, and it says:

Dear Vanessa --

THE COMMISSIONER: This is one from Vanessa to Thomas Nurthen, isn't it?

DR WRIGHT: The top part is but I will read it chronologically.

THE COMMISSIONER: Okay, thank you.

DR WRIGHT: Dr Hlinka contacts Ms Ientile on the 24th of the 10th and he says:

Thanks for the facts sheet. Am finding it slightly misleading in that the yields presented in the graph --

so the graph that we just observed --

for DNA IQ compared to Chelex are actually those of the manual method and not the automated method. The automated method gives yields that are approximately equal to that of Chelex or slightly worse.

So I can't say for certainty whether Dr Hlinka's correct in terms of whether the wrong information was provided to the staff in that fact sheet or not, but I just thought that was worth raising.

THE COMMISSIONER: Thank you. I am speculating but I must say when I first saw that graph, I remember that one of the earlier projects, 9 or 11 - I think it was 9 - did a direct comparison with the manual DNA IQ, not the one that was ultimately used, perhaps, but that one, and you'd have to go back and see whether that graph represented the samples from Project 9, which I haven't done.

DR WRIGHT: Yes.

THE COMMISSIONER: But also I'm just questioning now, does this also raise - it seems to be that there was an experiment done that hasn't been - you know, one of the examples of an experiment that may have been done but we don't see a - we haven't seen yet, if it exists, a report of it.

DR WRIGHT: Yes, the concerning part for me is, Dr Hlinka is --

THE COMMISSIONER: The conclusion is obvious, the conclusion states what it states.

DR WRIGHT: Yes.

THE COMMISSIONER: But I don't think we have seen a project report that directly records that experiment.

DR WRIGHT: Yes, correct. But in the fact sheet, this data appears and Dr --

THE COMMISSIONER: I understand the point that's being made, and Dr Hlinka is making the point to Mr Nurthen.

DR WRIGHT: Yes. And the email from Ms Ientile to Mr Nurthen, the same day, it's just that one sentence on the top, "For you to deal with please."

THE COMMISSIONER: Yes, I see that.

DR WRIGHT: That was all, thank you, Mr Fox.

THE COMMISSIONER: Thanks, Dr Wright.

MR FOX: Thank you, Dr Wright. We move then to the second substantive topic. Professor, can I just ask you to go to your statement, please.

THE COMMISSIONER: Mr Fox, sorry, before you move on, that, of course, is all in evidence. Do you want to tender that document?

MR FOX: Sorry, I do want to tender that, yes, thank you, just that one document, thank you.

THE COMMISSIONER: I accept the document from the news

bank extract, the press release. I have no idea at the moment what numbers follow from what we are up to. If you could arrange to have that numbered appropriately or tell everyone, then --

MR FOX: Yes, we'll deal with that.

THE COMMISSIONER: -- that's in evidence, thank you.

COURIER-MAIL ARTICLE TENDERED (TO BE ADDED TO SCHEDULE)

MR FOX: Thank you. So the Professor's report or statement is behind tab 25 of the index.

Professor, would you mind just turning to paragraph 42. I just want to walk you through the steps that occurred in relation to preparation, which you have described as the "contamination report".

ADJUNCT PROFESSOR WILSON-WILDE: Yes.

MR FOX: It will take us a few minutes to do it, but this is to get the flavour of what was actually going on at the time. You indicate at paragraph 42 that there were a number of scientists that were working on various commissions for the first Commission of Inquiry. You're one of the scientists involved in that exercise, and you indicate there that you wanted to assist the Commission of Inquiry as you believed it was beneficial to Queensland, and forensic science more broadly, if its laboratories, methods and procedures were improved to be consistent with the national and international good practice.

At that time, you were assisting the Commission of Inquiry, you were employed as the director of Forensic Science South Australia, FSSA, and you would usually complete your work for the Commission of Inquiry outside of usual working hours, including over the weekend; do you recall that.

ADJUNCT PROFESSOR WILSON-WILDE: That's correct.

MR FOX: You referred to on 16 September 2022 which is when counsel assisting, Ms Hedge, then asked you if you had the capacity to provide a further report. By then you had already assisted by preparing three other reports and at that time you were still completing an Options Paper report

and you provide a copy of that email as part of your statement, do you recall?

ADJUNCT PROFESSOR WILSON-WILDE: I do, yes.

MR FOX: Then you set out at paragraph 45 the detail of the email that you received and the further information that was given to you and, indeed importantly, instructions that were given, and I'll just take you to those on page 7 of your statement.

In summary, the instructions for the task would be to advise on, firstly, whether the methods, systems and processes in relation to the above two issues were consistent with international best practice when the issue arose.

Second bullet point: whether the identification, investigation and resolution of the issue was appropriate and consistent with international best practice; and, thirdly, whether the amended method, systems and processes implemented in each case was consistent with international best practice.

If we look at then what the issue was identified, it was the DNA IQ instrument - this is the top of the page - developed by Promega in around 2008. It was discovered that:

> *The seals from the DNA IQ products (consumables) in the extraction phase were leading to cross-contamination amongst different and unrelated samples.*

I won't read any further, but the issue, contamination, was what the issue - that was the issue that had been identified for you then to provide responses to the instructions that were given; is that right?

ADJUNCT PROFESSOR WILSON-WILDE: That's correct.

MR FOX: Then you identified in paragraph 46 that having identified the issue and the instructions, you then defined that as the contamination issue, which you understood to be the subject of your report; is that right?

ADJUNCT PROFESSOR WILSON-WILDE: That's correct.

MR FOX: Then on 21 September 2022, you receive an email from counsel assisting with proposed instructions. You have attached that.

Then between 21 and 23 September 2022, there is a discussion that takes place regarding the due date for the report, because you are overseas in Denmark, chairing a particular committee between dates in late September to early October; do you see that?

ADJUNCT PROFESSOR WILSON-WILDE: Correct.

MR FOX: Then you also chronicle various steps starting on 23 September, this is in paragraph 49. Paragraph 50, on or about 27 September 2022 - I just ask Dr Budowle and Ms Veth just, to the extent you have the statement of the Professor before you, because I know it was hopefully part of the materials that you were briefed with, that if you could just follow this along, otherwise you will hear it. I'm sure it is just reliving the period in the Inquiry when you were engaged as well.

In paragraph 51, on 28 September 2022 you gave evidence in the Commission, primarily on the Options Paper report. You recall that?

ADJUNCT PROFESSOR WILSON-WILDE: I do, yes.

MR FOX: Then on the 29th and 30th until you flew out you believe you were preparing for the meeting that was to be overseas. You recall that?

ADJUNCT PROFESSOR WILSON-WILDE: I do, yes.

MR FOX: Then between about a 10-day period in early October 2022, you chair the meeting in Denmark, and then on 6 October you received further briefing material from the Commission of Inquiry. You recall that?

ADJUNCT PROFESSOR WILSON-WILDE: By looking at my notes, yes.

MR FOX: And you have attached an email. On 12 October you received refined instructions and you have attached those instructions at the annexure LWW7, and the deadline for provision of the report was five days later. Do you

recall that?

ADJUNCT PROFESSOR WILSON-WILDE: Yes. I will say that my recollection for all of these is taken from subsequent research, looking through all my emails, et cetera. It wasn't something I did - I naturally recalled. I had to actually go back through my emails to help me recall the sequence of events.

MR FOX: Thank you. Just so that those who are following this virtually, Dr Budowle and Ms Veth, I'm going to come to you in due course to ask you some questions about your recollection of that particular time period in which you were being given your instructions to prepare reports and attend and the like relating to the first Inquiry.

Then you were provided with the background, which is set out at paragraph 57 of your statement, and I won't go into any detail about that, you set it out in detail.

You then receive a statement of Mr McNevin of 13 October 2022. That's on the day after that's given, so that's the 14th. Then at about midnight, you say, on 17 October 2022, you provided a draft version of the contamination report. You recall that?

ADJUNCT PROFESSOR WILSON-WILDE: I do, yes.

MR FOX: Then at about 11 o'clock in the evening on the 17th you received some feedback, and then on 18 October at about 4pm you had a virtual meeting with counsel assisting, and possibly others that you can't remember, to discuss the draft report. Do you recall that?

ADJUNCT PROFESSOR WILSON-WILDE: I do, yes.

MR FOX: Then in paragraph 64, you refer to a meeting that was held on 18 October 2022 in the evening, 6.30, with counsel assisting providing further material to consider. You recall that?

ADJUNCT PROFESSOR WILSON-WILDE: From my notes, yes.

MR FOX: Thank you. And you then indicate on 20 October - this is paragraph 67. Quite early in the morning, there are then some communications. You provide a draft report. Around 10am the next day, counsel assisting provides you

with a marked-up version. You then review the marked-up version. You then, at subparagraph (d) - this is on page 10 of your report, or statement - indicate that the changes reflect the things that you had discussed with counsel assisting - you recall that?

ADJUNCT PROFESSOR WILSON-WILDE: Correct.

MR FOX: You then refer to some further exchanges by reference to times in subparagraphs (e), (f) and (g), and then (h) in the afternoon, counsel assisting emails you with some further instructions, and then over the page on page 11 of your statement, you attach all the various emails and you provide your contamination report on 20 October at about 10.30 in the evening.

Could I just pause there for a moment? Do you have a recollection - I appreciate I should have taken you to paragraph 77 - that that accurately reflects the amount of material that you say you were provided, in excess of 9,000 pages and a suite of 148 documents to review as part of this work on the contamination issue?

ADJUNCT PROFESSOR WILSON-WILDE: I have kept records of all of the documentation that I received over that time period, and all of the emails that I had. To be honest, if you asked me about my recollection, I have some recollection, but a lot of it is blurred and I've had to rely heavily on my emails and notes and documentation.

MR FOX: Thank you.

Now, Dr Budowle, can I start with you. You're familiar with what I've just rather quickly taken the Professor through to refresh her memory of the evidence that she gave just a few days ago and to briefly outline it. You are familiar with what the Professor has indicated from what I've just taken you to about the preparation of the contamination report. Do you have any observations to make about the way in which - and this is not intended to be disrespectful of the first Inquiry, no doubt it was an intense affair entirely, but do you have any comments to make about that particular period of the Inquiry, because this is where both you, Ms Veth and also Professor Wilson-Wilde and Dr Wright were all giving and preparing reports - would you like to just make your comments in relation to that time period and what you were

experiencing yourself in terms of preparing reports?

DR BUDOWLE: It may not be much different than what Dr Wilson-Wilde has presented. In fact, I was asked in the two-week period of September to prepare three reports looking through a lot of documents in a very short time frame. The constraints, of course, were the documents that the lawyers thought were important, based on their investigation, so we only worked with what was given, and there was, you know, constant - I say - requests to get it done early, for the three reports.

The fourth one I think was the really challenging one that took longer to complete through November and that Johanna Veth took the lead on and I contributed, where there was - I don't know if there were - I didn't count 9,000 pages, but it could be that or more, the same kind of thing, where we had to dig deep into data to see if we could find some things of value.

So my expectation is we identified some of the issues that may have been in those documents and we probably missed some of the issues in there just because of the time constraints, and there may be more things lurking than just Project 13, if we dug deeper.

MR FOX: Thank you. Ms Veth, do you have any remarks you would like to make, too, about what you experienced at that time period in terms of responding to instructions that had been given to you to prepare a report?

MS VETH: Yes. The Professor used the word "intense" and that characterises that period of time quite well. For me personally, it was the - probably the last month leading up to the hearings. I mean, I was fortunate in that the module that I was appearing in was actually the last - or the sixth module, and so I had had a reasonable amount of time to review the documents that we had. I did a quick count at some point, and we had received over 1,000 documents for the areas that Dr Budowle and I were working on together, and one of those documents was more than 2,000 pages long. So - and also, we were dealing with a lot of spreadsheets, and it's very hard to make sense of someone else's spreadsheets 10 years later. You know, I'm also open to the possibility that things were misinterpreted by ourselves, simply because we were working with other people's spreadsheets or other people's minutes of

meetings, and if the question is did we miss anything, I think that's entirely possible, just from a sheer volume of work that we did have to - or documents that we did have to review.

MR FOX: And Dr Budowle, did you have any understanding of what other experts were concentrating on, and if I may be more direct in that question, did you have an understanding at that time that Professor Wilson-Wilde was actually focusing on the contamination point?

DR BUDOWLE: I probably don't recall well now, because sometimes we didn't know what others were working on until a report was provided. So, you know, I remember more, like, this swab issue or something or the alcohol on the swab. I had no idea anybody was doing anything on that until I saw her report. So sometimes we were told some people were working on areas and sometimes we were not. But not a lot of detail. I got the feeling that they tended to want us to be more isolated to get our opinions less biased from others.

MR FOX: Thank you. Ms Veth, do you have a similar understanding as Dr Budowle - that is, that you did not have a clear understanding of a dividing line between yourself and any other experts who were engaged by the Commission?

MS VETH: That's correct. It was not until I was asked to either review - on an occasion I was asked to review a report that another expert had created, including the swab report that Professor Wilson-Wilde prepared, because it was - because it may have been pertinent to the work that I was specifically dealing in, but otherwise, I wasn't really aware of who was doing what.

MR FOX: Thank you. And Dr Wright, you were also engaged at this period to provide reports to the Commission. Do you have a similar recollection of the intensity of that particular period of time?

DR WRIGHT: Yes, I wasn't engaged as an independent expert. The Commissioner engaged me to specifically review the Blackburn DNA case file and any associated documents, so it was quite broad. I wasn't given, kind of, you know, the specific terms of reference potentially as the others had, so as Ms Veth said, it was, you know, quite isolated,

I didn't have an opportunity to speak to any other experts I think until a week or two before we were meant to testify, but as Ms Veth said, you would get some documents and then you would probably have to request some more documents, because you didn't know what you were looking for. It was very open, "Okay, find something within the Blackburn case that could indicate something would go wrong". So you really had to look at everything from A to Z and then back again, and then "Oh, okay, I missed this, now I've got this other document, now this makes sense". But it definitely was a very, very intense period. I was working full time and doing this evenings, weekends and so forth, so it was, yes, a very intense period.

MR FOX: For convenience, I was going to move to the final topic. That's just in relation to FSQ, or Forensic Science Queensland. Professor, you have indicated at paragraph 165, just a few paragraphs there, under your heading "Moving forward" in terms of what steps have been taken, or have taken place. What I wish to just invite you to inform the Commission of is that since your appointment, are you able to just provide a general summary of the main steps and actions that have taken place in terms of seeking to implement the recommendations from the Sofronoff Inquiry?

ADJUNCT PROFESSOR WILSON-WILDE: Absolutely. It would be my pleasure. When I arrived at the laboratory in January, probably my first task was to have a look at the processes that they were doing currently and try to get my head around how the processes were occurring. My primary focus was the current methods and the results going out of the door, because we had imminent trials, and so it really was ensuring, and has been ensuring, that those results are fit for purpose.

One of the first things I identified was that the DNA interpretation process wasn't consistent with what would be utilised in other laboratories around the country, and there was a requirement to realign the way that the laboratory interpreted profiles. And some of that you can see from the first Commission of Inquiry with the no DNA detected, DNA insufficient for further processing, and an over reliance on complex mixtures as a result, so the mixture results being determined too complex to interpret.

So working with the scientists and independent

experts, I brought independent experts in from overseas to conduct training programs, et cetera, and bringing on a new manager of biology, again, working with staff to develop new guidelines for DNA interpretation. I think that was a really significant outcome, because what that meant is we were realigning those results, and actually then generating a significant number of additional results and information for the police and for the courts.

I have been looking at all of the recommendations, reviewing them all, adapting a plan to implement them, assign them, categorise them, prioritise them, et cetera.

I've also had to build the institute or the agency itself, so it's extensive recruitment processes, establishing a leadership team, but then also ensuring that we have proper leadership development, so putting in a leadership development program.

At the same time, going to government and seeking additional funding, which we were successful in gaining. What else? Also, building on all of the information that I had got from the Commission of Inquiry, plus also discussions with scientists, and there were lots of discussions with scientists, around what they saw the issues as. Validation was a particular issue that I identified in terms of the way the laboratory conducted its validation programs, and so doing a review of all of the validation that we have, and we're still going on with all of that, but again, through a prioritised process, ensuring that we have appropriate validation documents for all of our methods.

But also what I wanted to do is, the Commission of Inquiry has recommended 123 recommendations, but it would - as Dr Budowle and Jo Veth have indicated, the potential is things are missed. So I felt it was really important to do a deep dive into the processes. So what I did was get independent experts to come and do a deep dive into - and so far we've done the evidence recovery area and we've done the DNA analysis area - to actually go through validation documents, current methods, making sure people have the skills and experience; that the training is in place, although I do want to do a separate review of that as well; the facilities - and really just go through and deep dive into each of those areas.

In addition, part of FSQ encompasses chemistry, so we can't ignore that area. You lift the lid over any process and you'll find opportunities for improvement. So we've also commenced deep dives of that process.

As part of the leadership team I've been able to recruit an excellent manager of innovation and an excellent manager of quality as well, and so really establishing that leadership team and having them work together is really important.

Now, the work that we've been doing in the innovation space is really important because we've established a proper project approval process, so that there is a project approval, and really key to that is an empirical study design matrix that actually documents and develops a matrix of all of the experiments, right down to the detail of number of replicates, the - what you are testing, et cetera. And so I can see, then, you can see really clearly that there is no - they are testing a variable at a time, and really importantly that the data is inferring what results should come.

Those project approval processes are signed off by an independent interstate expert as well as the management team, and that all occurs before the project commences. Once the project is completed, a report is done. That report goes through our management team and then again goes out to an independent expert, and then comes back in before it's approved and before it's implemented. And appropriate methods and training are conducted before that occurs as well.

So that's all going. And we've put in a process to manage and have visibility over all projects that we're currently doing in the innovation space.

Then, in the quality space, we are completely redoing the quality manual, the quality system, and that's a complete overhaul of that process, and both of those teams are recruiting scientists to sit within them.

Then, in terms of our bag logs, we've been looking at ways to address those that don't - so we still have quality, but that's a large-scale recruitment process, outsourcing, and a number of other things that have been announced, so that we can really build a good, viable

service to the courts and the judicial system.

I have also been working on our stakeholder engagement with the Queensland Police Service, the Office of the Director of Public Prosecutions and the courts and having meetings with representatives from those, so that we can really work together and try and get the best results.

We've also implemented an interim report format, and we've instigated a number of recommendations and we've delivered quite a number. But this really is rebuilding the agency from the ground up, whilst also delivering the service.

In terms of the historical case review, we've set up a process for that, which is a legal-led case review, and so that --

THE COMMISSIONER: What, sorry?

ADJUNCT PROFESSOR WILSON-WILDE: Legal-led. There is no point in the lab utilising resources to review a case that has been through the courts or was tried and DNA wasn't a major factor, even if there may be a little bit of evidence there. So the idea is that the DPP and police would review the case to see if any further DNA evidence would be probative for the case and therefore those are the ones that we would prioritise, obviously looking at the most serious cases as part of that review.

So that process has been approved and now we're building a team that will then really go back and really look through all those cases in earnest. So that process, whilst we have commenced it for certain cases, it hasn't kicked off in its full review because we're still recruiting scientists into the laboratory.

Unfortunately, that process has been found to be more difficult than we first anticipated. Forensic biologists who are fully qualified are not - are somewhat rare, and so we've had some - whilst we have been able to attract a number of excellent scientists, we're still short of the number that we need to deliver what we need to deliver, and we're still working through that process.

MR FOX: Can I just ask you, when you are talking about the review processes, at 167.1 of your statement, you

indicate there about a further improvement to FSQ would be to review all cases, not just limited to those identified from the review of the extraction positive control from 2007 to 2016. Just provide some background as to what you have described there in terms of the review process?

ADJUNCT PROFESSOR WILSON-WILDE: So the idea will be recommendation 105 requires us to go back and have a look at the positive controls for the MultiPROBE. In doing that, we will do that process, we've got an idea about how we will do that, and we're currently recruiting a scientist in order to perform that work. Once that occurs, we will go through, identify those, but when we identify them, they will then go into the legal-led review process. So that's what we're thinking there.

THE COMMISSIONER: Just to clarify, the intention is to go back to 2007.

ADJUNCT PROFESSOR WILSON-WILDE: It is, yes.

MR FOX: Unless there is anything you wanted to say, I just wanted to ask Dr Budowle, you have heard what the Professor has indicated about the steps that have been taken, and I appreciate it may be the first time that you have heard some detail around that, but what you have heard the Professor say, are those all the things that you would expect to have occurred following the recommendations being handed down by the first Inquiry, or are there any things that you would wish to add to the shopping list that the Professor has indicated?

DR BUDOWLE: I think they are commensurate with the recommendations. It's a herculean effort, it's much harder to rebuild a lab that has a culture issue and a quality issue than to start a lab from scratch, or to take over a lab that is functioning well, obviously, so she has a real challenge and many of the things she has outlined I think are spot on.

The only difference that we would do, in our system, when we have an issue is - and I don't think it is the same, but I could be wrong - we do a materiality review, which usually isn't the police or the lab, but the lawyers that are involved, to see if any cases may have been impacted, particularly those that are convictions, in that if the evidence had been - if there had been more evidence,

it might have pointed in another direction. They would reach out to the convicted individuals to see if they want to proceed forward and also prioritise those cases, but other than that, I think that's a good start, but I'm sure there will be more things added as she goes along.

THE COMMISSIONER: Thank you. And Ms Veth, would you like to indicate your comments in response to what you have heard from the Professor?

MS VETH: In my opinion - I mean, this is an enormous task and, frankly, I'm surprised at what she has already been able to accomplish so far. So, I mean, other than to wish her well, because I imagine there are going to be further challenges ahead, those projects that she has identified seem appropriate, given what came out of the Commission.

MR FOX: Thank you. And, Professor, just one thing that came from Dr Budowle, which was you used the phrase legal-led review and he talked about materiality. Is there anything you would like to say in response to that?

ADJUNCT PROFESSOR WILSON-WILDE: I should also add, thank you, that defence are engaged as part of that legal-led review, and I should also add I haven't actually mentioned all of the cultural changes that I have also instigated at the laboratory to bring the scientists along on the journey; bring chemistry, biology together; re-instigated the social club; I've hired a director of wellbeing and culture, a clinical psychologist to help everyone; career success plans have been put in; a strategic plan has been developed. A values statement has been developed along with staff that got excellent staff buy-in. Oh, gosh.

THE COMMISSIONER: You don't have to give me a shopping list of absolutely everything you have done.

MR FOX: Finally, Dr Wright, you have heard from Professor Wilson-Wilde and your other two colleagues, there is an opportunity for you to venture any comments you want to make.

DR WRIGHT: I think the recommendations that the first Commission of Inquiry made were exceptional, they were very extensive, but as we have heard, there are going to be more issues found. So as we all agree, it is an absolutely

enormous amount of work and I think it is going to take many, many years to do the technical side of it, but also the cultural side of it as well. So this isn't something that's going to take two or three years, I think it's going to take many, many years and there's going to be competing priorities as well.

MR FOX: Thank you. Just finally, Dr Wright, in relation to Project 70, there was that appendix issue. If you haven't had a chance to look at that, I think the Commissioner would accept a short document, if you wanted to produce it, in reflecting on --

THE COMMISSIONER: Or anybody.

MR FOX: Or anybody, yes.

THE COMMISSIONER: Not anybody, this is not an invitation to any member of the public.

MR FOX: No.

THE COMMISSIONER: If any of the four experts wished to add something or cast a light on what seemed to be the ambiguities or the lack of clarity in Project 70, that would be very helpful.

MR FOX: Thank you. Now, I don't know whether any of the other legal representatives wanted to try to contribute at this particular point.

THE COMMISSIONER: Have you basically concluded at this stage?

MR FOX: I have concluded, yes.

THE COMMISSIONER: With this particular --

MR FOX: I have no further questions.

THE COMMISSIONER: I'm going to ask now if any of the other legal representatives have any desire to ask any questions.

MR RICE: No, thank you, Commissioner.

MR HOLT: No, thank you, Commissioner.

MR DIEHM: I will, Commissioner, on one topic in particular, if I may.

THE COMMISSIONER: I just wanted to get the lay of the land. So no-one else is putting their hands up at this stage, other than Mr Diehm. You will get another chance after he finishes, just in case.

MR DIEHM: Commissioner, it concerns the topic of formal case reviews, and in paragraph 28 of Adjunct Professor Wilson-Wilde's statement if I may have that brought up on the screen. [LAY.010.020.0001]

THE COMMISSIONER: The first one, I assume? That's the paragraph you are interested in?

MR DIEHM: Yes, paragraph 28. I'm trusting that the experts online have that in front of them as well? May I just clarify?

DR BUDOWLE: Yes.

MS VETH: Yes, I do.

THE COMMISSIONER: They should be part of the screen-share, I assume.

MR DIEHM: Thank you. I will ask, firstly, of you, Dr Wilson-Wilde, concerning the method employed in those various steps that you describe in paragraph 28 there, in the conduct of an historical case review, given that's being done in the present day, in the lab, the Commission may take it, no doubt, that that is employing the current technology in the treatment of those various substances that are being subjected to that analysis?

ADJUNCT PROFESSOR WILSON-WILDE: It is; that's correct.

MR DIEHM: So you have offered that up as being the method, or the process being employed in the lab now, in the conduct of the formal case reviews, and I just wanted to ask each of the experts in turn as to whether they consider that process as, in itself, being appropriate, or whether they have any other suggestions as to anything else that might be done in the conduct of those historical case reviews.

Perhaps if I might start with you, Ms Veth?

MS VETH: I imagine that the decision around what type of retesting will be done will be based on case by case, and may well include turning to other laboratories who offer specialist techniques, if the case warrants it.

I believe there was a separate section further down at paragraph 31 that talks about samples possibly affected by - well, samples that were processed on the MultiPROBE platform, that the retesting for these will likely be on the original exhibit, where possible. So I suspect that this - these paragraphs summarise the process without giving specific details of the exact nature of the retesting, because that would depend on the case and the samples.

MR DIEHM: Yes. And in your view, that should be scientist-driven?

MS VETH: Well, once it has been determined that a case should be re-looked at, I appreciate this legal-led review process makes sense, so once it has been deemed that a case should be reconsidered for further testing, then the nature of that testing should be scientist-led.

MR DIEHM: Thank you. That is what I meant to be asking you about, and I appreciate the clarification.

Dr Budowle, do you have a response to my question, framed as it was?

DR BUDOWLE: It would be very similar to Ms Veth's response, but just - I'm assuming that these are summaries of the more in-depth analyses that would be undertaken, and we would want to see, as I said, a materiality review, which I think is what is meant by the prosecution and defence perspectives. Then, from there, deciding which cases warrant further analysis, because we have to be practical, we have to be resource-driven as well, to the cases that are relevant and where probative evidence could have an impact. And then triaging based on the amount of DNA one has, again, as Ms Veth said, the type of case, what markers may be of value, and then make decisions accordingly - that part would obviously be scientific. The first part would be probably less for the scientist and

more of the legal side or the judicial side of things.

MR DIEHM: Thank you. And Dr Wright?

DR WRIGHT: Yes, so each recommendation or issue that was identified by the Commission of Inquiry and any further issues that have been identified, you really have to scientifically understand what has gone wrong at a molecular level to understand which treatment you choose. Without that understanding of what has happened to that sample at a molecular level, if you apply the wrong test, you may get a failed outcome but you won't know that it's a failed result, you will just think, "Well, there was no DNA in that sample." So I'll refine that to recommendation 105 and everything that we've learnt about it at this Commission of Inquiry with the DNA extraction, you know, I think everybody agrees that going back to the original extract is not a good idea, and that's what's been reflected here.

THE COMMISSIONER: And I think Dr Wilson-Wilde just said it would be using current methodology, not old methodologies.

DR WRIGHT: Yes, and that's where I think there probably needs to be some additional consideration. Going back to the original swab and applying standard DNA extraction processes may not be able to release any residual cells from that swab. So I've done some further technical review of this, and some of it arose out of your work and Dr Budowle's work at the original Inquiry with the rayon swabs that were retaining cells, so they were very good at - the crime scene swabs that the police were using were very good at recovering the cells from the crime scene but there has been a lot of literature, particularly medical literature, which shows that once they are trapped in that tight weave of that rayon, in one study it showed up to 80 per cent of cells were trapped in that weave. So it goes through a standard extraction process and maybe only 20 per cent of those cells are released from the rayon swab.

THE COMMISSIONER: Is that encompassed by the - I mean, without going into each and every potential example that one could think of of the different sorts, I think there was a consensus amongst all of you that the decision has to be sample-driven and scientist-driven to understand - and

materiality, and those questions of materiality can extend, I would have thought, beyond just legal materiality but also to an assessment of the materiality of the swab and the extraction procedure that is going to be applied. But they are individual decisions made for individual samples, aren't they?

DR WRIGHT: Yes. My point is that a majority of the samples will be swabs that are submitted to a forensic laboratory, so I think you are going to get a problem where, if you try to apply that rayon swab to a standard extraction procedure, you may not actually release the --

THE COMMISSIONER: I understand that, but having understood that, isn't that an example of sample-driven decision-making?

DR WRIGHT: Yes, correct, but the variation of what I see here is the suggestion is put those samples from recommendation 105 through the standard extraction process, and I don't believe that that will work. I believe there has to be - and there has been some research done where labs are looking at what they can do to have a targeted method to try to release those cells from the swabs, and there's some research showing that labs using this very particular method are recovering three times as many cells.

So my point is just putting those swabs through a standard extraction method I don't believe that you will be able to release those swabs. I believe there has to be research done in conjunction with existing research and applying a method that will ensure those cells are released from the rayon swab.

THE COMMISSIONER: Dr Wilson-Wilde, do you want to respond to that?

ADJUNCT PROFESSOR WILSON-WILDE: I think I agree that you need to validate a method that is the optimal method for the substrate and the biological material that you are dealing with. I don't understand what a difference of the original extraction process might be, but if you have a rayon that you - is purported to have blood on it, then you have - you should have the best method possible for rayon with blood on it, and that should be the method that you apply to all of your rayon and blood samples. And so the idea is that we would have specific workflows that are

aligned to the substrate and biological material to maximise DNA recovery.

THE COMMISSIONER: Can you just help me with one thing, I think Dr Wright mentioned that further research is taking place in some of these areas, and some laboratories might have developed expertise a particular or published to indicate expertise in a particular area. Do you have any processes in place to keep track of developments in other laboratories that would maybe assist in finding out what technique is applicable to a particular area?

ADJUNCT PROFESSOR WILSON-WILDE: A key arm of what we're doing is establishing an innovation team, led by a manager innovation, and that team will be responsible for engaging with universities, academia, and having a really good relationship with other laboratories, keeping an eye on research.

A really good way to ensure you've got a strong research culture is actually to do research and have strong partnerships with academic institutions, so that is the process that we are looking at putting in, and empowering staff to have good networks and good relationships with other labs as well, and I have sent one scientist to another lab to go and learn from that other lab and bring the learnings back and have - run a presentation, et cetera, to share those learnings with their colleagues.

THE COMMISSIONER: I'm sorry to interrupt, but you also mentioned earlier that - I think you mentioned earlier - that there were times when you sent samples off to other laboratories.

ADJUNCT PROFESSOR WILSON-WILDE: That's correct.

THE COMMISSIONER: If you knew that there was a laboratory that had specialised expertise in a particular area and you had a sample that was difficult to treat or from which to extract DNA, would you - I mean, what determines when you use another laboratory to assist you?

ADJUNCT PROFESSOR WILSON-WILDE: We currently don't have a Y-STR system in place. The Y-STR is for the --

THE COMMISSIONER: That's chromosome Y?

ADJUNCT PROFESSOR WILSON-WILDE: Yes, male DNA. We're in the process of validating that method at the moment, it's one of the recommendations, but we probably won't have that method online until the new year, and so in the interim, we are outsourcing that to another laboratory, so that the casework isn't - is still maximised, the evidence that we're getting where that's appropriate. And that's a decision that the scientists make in conjunction with the Queensland Police Service, and we get bone analysis from the AFP at the moment, but if we needed mitochondrial DNA analysis, there's a number of laboratories that we can go to.

The manager of biology sits on the specialist advisory group, which is a national group for biology, and so they are making those networks and knowing what all the labs are doing. We also have strong connections with overseas laboratories and we're also making sure we've got a good cohort of scientists going to conferences and things, and that's where they can really learn about what some of that latest research is.

MR DIEHM: Thank you, Commissioner, that's all I had.

THE COMMISSIONER: Does anybody have any other questions, first, before we go back to the experts? Does anyone have any questions in relation to any of the matters then this morning?

I think, just to close off, Mr Fox, did you want to ask if any of the experts had anything in particular that they wished to add or comment on?

MR FOX: Yes, certainly.

THE COMMISSIONER: Just in case, while we have them here.

MR FOX: Certainly. Thank you for your time this morning and indeed, probably the afternoon. Just in relation to all the various topics that we've covered during the course of the session, if there is anything further, and indeed maybe it's just in relation to that last exchange, but anything further that any of you would wish to venture, this is the opportunity to do so.

DR WRIGHT: No, thank you.

THE COMMISSIONER: Ms Veth?

MS VETH: Yes, just one thing that arose in the evidence yesterday. A question was asked of the witnesses, did anyone say anything after the implementation of the MultiPROBE; did anyone notice if there was a problem with the results? And, sorry, I can't find it in the transcript, but I recall that the answer - there was sort of a shrugging of shoulders and nobody could recall anyone making any comments about the results that were coming off the MultiPROBE, and I just wanted to raise that in our examination of the Blackburn case, that's probably because nobody was really looking. For example, in the Blackburn case, there were several bloodstains that produced really low or poor results, and there was nothing ever done about it. There was no interrogation of those results. There was no, "Mmm, that's strange. Why are we getting such poor results from these bloodstains?" It was partly to do with the way that cases were being processed and managed, but I just want to raise this, because this is an important question, that this piece of equipment was implemented on pretty shaky data, and there seemed to be no formal review of the results, and I don't think that the reporting scientists would - either could or were in a position to actually interrogate the results that were coming off the platform. So I just wanted to raise that as an issue.

THE COMMISSIONER: Thank you very much. I'm going to come back and ask Dr Wilson-Wilde one more question in relation to that.

Dr Budowle, do you have anything further that you wished to add?

DR BUDOWLE: Maybe two things. One is that Dr Wilson-Wilde raised something earlier that reminded me. I think one of the issues that hasn't been addressed well is communication amongst the scientists and the management, but also in communication of the language that was used. When I read some of these reports, I find the words that are used are not necessarily the appropriate words .

For example, in report 13, I remember one of the tables had "DNA profile". Well, "profile", to me, means something with peaks and alleles and something that we interpret of the genetic signature, yet it was applied to the quantity of DNA recovered, and so these - the language

used can be quite confusing, and that could be an impediment. So I would stress to develop a working lexicon that could be used. We saw that earlier with that "no DNA detected" and all these things. But just in Project 13, there was some of this misuse of language, or loose use of language, that could contribute to confusion.

The other point within the last exchange is, I'm a strong advocate of innovation, I spent a lot of my career doing that, and I also want to say, you have to be careful about being deluded with new science. Just because something is being reported as being the best thing since sliced bread, if you use those terms in Australia.

THE COMMISSIONER: We do.

DR BUDOWLE: Okay, or any kind of bread for that matter, it's just - it doesn't mean that it necessarily translates from what one lab researcher found is going to go into operation, and you have choices: you either should be working with what you have that you know is tried and true, or place the sample on hold and do nothing until something better is well established. So not just grabbing a technique and starting to use it, because the lab next door has some good results or someone at one of the universities found this at a meeting. It still has to go through the proper vetting, testing and assurance before you make a decision to, again, consume very precious evidence.

THE COMMISSIONER: Thank you very much.

Going back to Dr Wilson-Wilde, you heard those comments, bearing in mind that this is not - my terms of reference are really to look at - sorry, the relevance of a lot of this to this Inquiry is not that we're doing a whole general examination of everything but really it's to see, to look into the question of the implementation of recommendation 105 or the ability to implement any other recommendation or sub-recommendation that may come out of this Inquiry. And I'm not foreshadowing anything at this stage, but it's really - I think we've dealt for my purposes, unless you want to add - well, anyone can add anything. These comments that are now being made are relevant at this stage, as I see it, to the current practices in the laboratory and the way - you know, the matters that you have been describing, that you are dealing

with, that would lead to a confidence in the way in which the recommendation is implemented.

The particular matters, in particular, I think that have been raised, you know, questions of being able to ask questions, of results, communication between people, appropriate use of terminology, which - it's not because it's just pedantic, I don't think Dr Budowle is suggesting a pedantic use of incorrect grammar; rather, it's the fact that if you use the wrong technical term for the wrong thing, that it is misleading and it can be misleading, and we've seen examples, in fact, even in the documents we've looked at today, of what may well be imprecise use of language - manual versus automated, partially automated, partially manual, matters such as that.

In that context and listening to those observations, can you respond in terms of today's practice in the laboratory or existing and, you know, immediately planned or whatever, just to respond to those matters?

ADJUNCT PROFESSOR WILSON-WILDE: Absolutely, thank you. The manager innovation is currently developing an SOP for validation addressing a lot of those concerns around standardised formats, ensuring what should be in it, what should the considerations be, and after this I will have a conversation to ensure that has maybe some of the terminology in it as well, if that's not already being planned to be put into it. So I think that's a really important outcome.

The other thing around communication - we have established a number of additional communication mechanisms. I appreciate that not one communication mechanism works for all, so we have introduced a fortnightly newsletter and we talk about research and all sorts of things in there, it's all the news of what might be occurring. I've also instigated a CEO drop-in session, when any staff member in the morning can come and raise issues directly with me, and so that sort of gets around if there is anything that they want to talk about that is sensitive, they can.

The manager quality is establishing a quality forum. That's to meet some of the recommendations but particularly around raising issues and things like quality issues in a safe forum.

We have discussed introducing seminars and we have had a couple of seminars occur, and we've introduced all-staff meetings as well, and we do get scientists to talk about research in there as well. But it's essentially multiple forums that people can raise issues and --

THE COMMISSIONER: That's one of the main issues I think that has been raised, and I think there were two things that have come out of the comments that have just been made - not just two, you have answered some of them.

I think importantly, in terms of lessons learned, the two issues that - well, two that lead to a third, are the notion of taking responsibility, which is part of the questioning and communication procedure, and one could put that into the broad sense, too, of assurance. So just directly, apart from talking generally about seminars and matters such as that, and you talked about cultural change, can you tell me what - do you have and on what basis do you have, if you do, a level of confidence that the scientists now would feel free to question and take responsibility for error?

ADJUNCT PROFESSOR WILSON-WILDE: I think there are two parts to that, thank you.

THE COMMISSIONER: Obviously.

ADJUNCT PROFESSOR WILSON-WILDE: The cultural change is a long one. It's not one that I think's going to change overnight. Certainly in raising issues, I am confident that they can, absolutely, and I invite you to ask members of the staff directly if you have any concerns regarding that.

I think the responsibility component is a little bit harder, because that takes the onus on the individual, and we're talking about years of a culture where people didn't want to raise issues because they were afraid of the repercussions, and there's almost a risk overlay that I kind of feel that people don't want to take the risk of coming forward, and so I have to do walk-arounds and actually talk to people to find out things or to find out if people are having problems or there's something that is blocking them achieving, and I do think that's a longer journey for the staff. I'm confident we'll get there.

I don't believe we've got it quite right yet, because it's too soon, but I think we're establishing an environment where that will occur.

THE COMMISSIONER: I have nothing further. Do you have anything further?

MR FOX: No, thank you.

THE COMMISSIONER: No-one else is putting their hand up. I'm looking at the screen, I'm looking at those physically present here.

I think, then, that that concludes this session of concurrent expert evidence.

MR FOX: Yes.

THE COMMISSIONER: What now?

MR FOX: I think we adjourn for the day, or we will rise for the day, and then tomorrow morning, the two witnesses are separately, Professor Wilson-Wilde and Dr Wright.

THE COMMISSIONER: Okay. Thank you.

MR FOX: As presently envisaged.

THE COMMISSIONER: As presently envisaged. Thank you.

Look, I really do wish to thank each of you for being present today and giving us the benefit of your opinion. I'm not certain that we've been as difficult for you as the previous Inquiry, in terms of volume of material and the depth of the many, many varied reports we have asked for, but at the same time, I do appreciate we have put you under time pressure, and that's because the whole of this Inquiry is pressured as to time, and I'm really appreciative of the generosity and the breadth of your response both in time and attendance.

So a special thanks, of course, to Dr Budowle, because he has the added difficulty of, I think, a recent return home, which probably gives rise to some jetlag issues and, in addition to that, a big time difference, so we do appreciate the fact that you have made that extra effort.

New Zealand's not quite as big a difference in time frame, but I understand that each of you have given up your working time and your personal time to help this Commission of Inquiry, and for that I am very, very grateful, and I know - I'll just add to that.

I know, Dr Wilson-Wilde, you have put a lot of effort into it as well, but I know Dr Wright has also put an enormous amount of effort into the breadth of analysis that, you know, has been undertaken in order to ensure that these issues have been raised and discussed today. So thank you.

I don't think - so then we're adjourning, what, until 10 o'clock tomorrow morning?

MR FOX: 10 o'clock tomorrow morning.

THE COMMISSIONER: Unless anyone is told to the contrary, I will adjourn until 10 o'clock.

AT 12.10PM THE SPECIAL COMMISSION OF INQUIRY WAS ADJOURNED TO WEDNESDAY, 1 NOVEMBER 2023 AT 10AM

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