COMMISSION OF INQUIRY

INTO FORENSIC DNA TESTING IN QUEENSLAND

Brisbane Magistrates Court
Level 8/363 George Street, Brisbane

On Wednesday, 12 October 2022 at 9.30am

Before: The Hon Walter Sofronoff KC, Commissioner

Counsel Assisting: Mr Michael Hodge KC
Ms Laura Reece
Mr Joshua Jones
Ms Susan Hedge

THE COMMISSIONER: Ms Hedge?

MS HEDGE: Thank you, Commissioner. You have heard that the current module of hearings relates to those scientific issues and how they are raised and dealt with in the FSS laboratory in Queensland. One of the scientific issues that your Commission is investigating is the validations performed by the laboratory.

A validation is a process for determining that a method, process or device is fit for the specific purpose for which it is intended. The lab must validate all new instruments and processes that it seeks to introduce to ensure they provide accurate and reliable results and fit into the wider process of the lab. That must be done before any new process or instrument is implemented.

Validations are carried out at the laboratory generally by internal staff. They usually consist of an experiment or collection of data and then a report which analyses the data or experiment and concludes whether the instrument or process may be implemented or not. Sometimes the result is that it is not, and further work is done.

The report is considered and needs to be accepted by the management committee of the laboratory. Those people are said to endorse the validation report.

If not done properly, the lack of a proper validation can mean that the laboratory cannot rely on the instrument or process to provide accurate and reliable results.

The process of validation raises questions for this Commission both about whether validations conducted by the lab have been carried out in accordance with best practice and also whether there was sufficient oversight from the management team of what was decided and what was reported.

Some of the scientists you will hear from this week, in particular Rhys Parry and Emma Caunt, who will give evidence today, raised concerns about validations that have been completed, both as to whether the experimental design was sufficient to complete a validation and also whether the statistical analyses in the reports were appropriate.

The Commission engaged an expert in this field, Dr Duncan Taylor, from Forensic Science South Australia, to

review 15 validation reports prepared by the laboratory, which deal with instruments or processes that are currently in use.

Dr Taylor is the chief scientist in forensic statistics in biology in South Australia. He has doctorate degrees in both biological science and statistics and so is well placed to review the validations, both as to their design and their reporting.

Dr Taylor was asked to determine whether those validations were conducted in accordance with best practice and, if not, whether that would result in unreliable or inaccurate results.

In many of the validations, Dr Taylor identified that the statistical analyses used in the validation reports were not appropriate or could have been better analysed. In many cases, that did not affect the reliability of the results obtained, and Dr Taylor could identify from the data that the instrument or process had been sufficiently validated and can continue to be used with confidence.

However, in two significant cases, Dr Taylor concluded that the experimental design was lacking in such a way that the validation performed by the laboratory was not conducted in accordance with best practice and requires, in his view, rectification.

The first of those relates to the quantitation instrument and software called the QuantTrio and Quant Studio 5. That instrument and software work together to give the quantitation result that you have heard plays a significant role in the lab in terms of further testing or reporting results as "DNA insufficient for further processing", when that phrase was in use, and "no DNA detected".

While the general part of that validation was appropriately performed and Dr Taylor does not raise a concern about the experimental design that tests the reliability of the actual quantitation results, the limit of detection was not properly determined. As we heard in the first week of hearings, the limit of detection is the point below which the quantitation instrument can reliably detect DNA. As you know, the FSS lab has set that value as 0.001 ng/µL.

Could I have on the screen Dr Taylor's report, which is [EXP.0003.0001.0001]. This is Dr Taylor's report, which is dated 7 October, and I tender that document.

EXHIBIT #69 REPORT OF DR DUNCAN TAYLOR DATED 7 OCTOBER 2022, BARCODED [EXP.0003.0001.0001]

MS HEDGE: Can we turn, please, operator, to page 32, and zoom in on the middle paragraph. You will see there that, as Dr Taylor states in the first sentence, a limit of detection, or LOD, which is the acronym he uses, is the lowest amount that an analyte in a sample can be detected with a stated probability. You will see at lines 1057 and 1058 that generally that probability of detecting DNA is 0.95, or 95 per cent.

Dr Taylor explains that the way that limit should be determined is to test a series of solutions with known concentration of DNA and see what quant value is returned by the machine. Those different values are called concentration steps. For example, a series of concentration steps would be 0.0001 ng/µL, 0.0002 ng/µL, 0.0003 ng/µL, and so on.

THE COMMISSIONER: That is to say, you put in samples in which there is a known quantity of DNA?

MS HEDGE: Yes.

THE COMMISSIONER: And you put them through the instruments, QuantTrio, Quant Studio 5, and you see if you get the known number as a result --

MS HEDGE: That's right, yes.

THE COMMISSIONER: -- to determine that the system is working correctly in your laboratory?

MS HEDGE: That's right, or to see what variation you have - for example, if you always get a result that's 5 per cent above the known quantity, then you know that your instrument is telling you a number 5 per cent above the known quantity. And you buy that range of samples with known concentration; they are commercially available, so you can purchase them to do this experiment.

THE COMMISSIONER: Yes.

MS HEDGE: The experiment must test enough solutions at different concentration steps to see what concentration results in DNA being detected by the instrument, and it must test enough samples at each concentration step to enable the 95 per cent figure to be identified.

At line 1067, Dr Taylor identified that the FSS validation did not test solutions with concentration of DNA below 0.001 ng/µL. For every concentration that was tested, which was 0.001 ng/µL and above, DNA was detected. So the validation did not test any concentration level that did not result in DNA being detected.

For that reason, the validation did not allow the lab to set the limit of detection, because it may have been lower than 0.001 ng/µL.

In addition, the experiment only did two replicates at each concentration step, which makes it difficult to work out a probability like 95 per cent, 95 per cent being of course 19 out of 20, so you need 20 replicates to obtain a percentage of that specificity.

You may remember, Commissioner, that Dr Budowle and Professor Linzi Wilson-Wilde also gave evidence in the first week of the hearing that this aspect of the validation had not been done appropriately.

Dr Taylor deals with recommendations of how this matter might be rectified. Could we turn, operator, to page 82. Could we zoom in on recommendation 9 and recommendation 10, the two recommendations relating to QuantiFiler Trio.

In recommendation 9, Dr Taylor recommends that additional testing should be carried out to perform that validation appropriately, including a range of concentrations, and with 10 to 20 replicates at each concentration step.

In recommendation 10, Dr Taylor recommends that until a limit of detection is properly determined, it should not be used as a decision threshold, but, rather, all quantified samples should be treated as though they exceed the limit of detection.

THE COMMISSIONER: I'm sorry, where does he say that?

MS HEDGE: In recommendation 10. As you know from the first week of hearing, the threshold for reporting no DNA detected set by the FSS lab at the moment is the limit of detection from the quantitation instrument.

THE COMMISSIONER: Let me see if I understand it. The validation did not test the extent to which, or whether, DNA could be detected below 0.001 ng/µL?

MS HEDGE: Yes.

THE COMMISSIONER: And as a consequence, we don't know whether the instruments can detect DNA reliably below that concentration?

MS HEDGE: Yes.

THE COMMISSIONER: Therefore, rather than treating a reading of less than 0.001 ng/µL as indicative of no DNA, one should treat it upon the assumption that there is DNA in the sample; is that right?

MS HEDGE: Yes, until that further work is done to properly identify true limit of detection.

THE COMMISSIONER: So does it follow, then, that to report no DNA detected for samples that returned a quant below 0.001, as was the case until recently, is unsound?

MS HEDGE: Yes, that's right, but perhaps not with the knowledge of anyone doing it.

THE COMMISSIONER: No, no, nobody knew it at the time, but the implication from what Dr Taylor is saying is that a limit of detection is generally understood as a quant value below which we know that our instruments cannot reliably return a result for the presence of DNA, or its absence.

MS HEDGE: Yes.

THE COMMISSIONER: Now we have another reason why a quant below 0.001 can't be regarded as indicative of the absence of DNA, because it has not been tested to determine whether

it is unreliable; it might well be possible to determine the presence of DNA below that level.

MS HEDGE: That's right. That's right.

THE COMMISSIONER: I understand.

MS HEDGE: The effect of his recommendation is that, going forward, immediately, there should be no reporting of no DNA detected, because at this time, in his view, there has been no proper validation of that limit of detection.

THE COMMISSIONER: So we should be testing samples that return a quant below 0.001 upon the assumption that it does contain DNA until we know differently?

MS HEDGE: That's right, which is all samples, now that the DIFP threshold has been removed.

THE COMMISSIONER: Which means all samples.

MS HEDGE: Yes, all samples that are put through the laboratory.

THE COMMISSIONER: Thank you.

MS HEDGE: Commissioner, depending on what the true limit of detection is, which would be determined if recommendation 9 is put into effect, there may also be some effect on samples reported as no DNA since this validation was done in 2015. That is, if the true limit of detection happens to be 0.001 ng/µL, then there is no concern about previous results, but if the true limit of detection is lower, then there may be some impact on previous results and impact on what should be done with samples that have been tested in the past and reported as no DNA.

THE COMMISSIONER: Of course, that depends upon a question that hasn't been raised yet but will have to be raised and answered, which is this: in cases of serious crime, major crime, violence against the person, there is an issue whether whatever quant is returned, even zero, samples shouldn't be tested fully - that is to say, whether any threshold whatsoever should be applicable to determine that samples should not be tested when major crime is involved, and so the issue is should all samples that have been taken with a view to attempting to capture a suspect's DNA be

fully tested if the samples were taken as part of an investigation into major crime?

MS HEDGE: Yes, that question arises and will be dealt with by Dr Kogios and Ms Baker, who are doing the overall review of the current operation of the laboratory.

THE COMMISSIONER: Yes.

MS HEDGE: That deals with the QuantTrio recommendations and findings of Dr Taylor.

The second validation with which he found concerns with experimental design relates to the ProFlex instruments. The lab has a number of ProFlex machines. The ProFlex is a thermocycler. That means the machine heats and cools the samples in accordance with a program to allow the amplification process to take place.

Can we turn to page 72 of the report, please, operator, and zoom in on the paragraph under 11.9, please. As Dr Taylor says here at line 2363, in his opinion, the ProFlex validation was not carried out in accordance with best practice. That relates to a number of features: first, the use of STRmix in a validation, which was only included after implementation; second, the number and variation of samples which were processed using each machine; and, third, the generation of what are called model-maker parameters in STRmix for the ProFlex instruments as a group rather than for each ProFlex instrument individually.

THE COMMISSIONER: What does that mean? I don't understand it.

MS HEDGE: There are parameters in STRmix, settings, which coincide or are tested to make sure that the ProFlex and STRmix work together appropriately. I'm sure there is a number of ways of setting those settings, but what Dr Taylor recommends is that for each individual ProFlex machine, settings should be determined, the interaction between the two, the instrument and the software, but this validation treated the ProFlex instruments as a group and used averages to set the settings.

THE COMMISSIONER: Let me see if I have understood it, and you can correct me if I have misunderstood it. STRmix is

the computer software that is used to, in effect, smooth out profiles by way of assistance to the interpreters so that the profile that they see is the clearest and best profile that is obtainable. Would that be a fair description?

MS HEDGE: I would describe STRmix as the program that assists with the creation of the likelihood ratios --

THE COMMISSIONER: Yes, all right.

MS HEDGE: -- rather than the electropherogram.

THE COMMISSIONER: All right. So STRmix is a software program which assists the reporting scientists in interpreting the electropherograms, the profiles, but the way it works is that it has to be programmed, or, rather, parameters have to be set within STRmix for each laboratory depending upon the equipment that it uses and the kinds of results it tends to get, so it has to be individualised as a software program for each laboratory?

MS HEDGE: Yes.

THE COMMISSIONER: And it has to then be individualised because of the unique equipment system that any particular laboratory uses, the manufacturer of a particular piece of equipment or a chemistry kit that is used, and so the STRmix has to be instructed to take into account the use of particular chemical equipment and particular electronic instruments; yes?

MS HEDGE: Yes.

THE COMMISSIONER: So when this laboratory uses the ProFlex thermocycler as a piece of electronic equipment as part of the amplification step in DNA profiling, it doesn't have a single ProFlex machine; it has a number of ProFlex machines?

MS HEDGE: Yes.

THE COMMISSIONER: What Dr Taylor says is that the parameters of STRmix have to be adjusted to take into account each individual ProFlex machine; is that right?

MS HEDGE: Yes.

THE COMMISSIONER: Whereas the validation assumed that it was sufficient to set the parameters of STRmix as though there was only one ProFlex machine; that is, it was a set of parameters taking into account the group of machines as though they didn't differ between each other. But one shouldn't assume that. One should set STRmix parameters according to each individual machine that is used as part of the amplification process?

MS HEDGE: Yes, unless, when you test each individual machine, it turns out that the settings happen to be either the same or so close as to be sufficient to use one setting across.

THE COMMISSIONER: Yes, you shouldn't assume that they won't have a difference in the effect upon the samples that go through to STRmix. They may have a different effect, they may not, but it will be a coincidence if they don't, but you should not assume that they will. Yes, I understand.

MS HEDGE: Operator, could we zoom in on the next paragraph, please, on that page. At line 2370, Commissioner, Dr Taylor concludes that while there is no evidence of unreliability, equally there is a limited ability to demonstrate reliability on the results shown, and Dr Taylor believes additional laboratory work would have been beneficial. The technical details of that are set out in the rest of that paragraph.

Can we turn then to page 13 of the report. Dr Taylor does have an executive summary at the start of the report that deals with each of the validations. Could we turn to the paragraph at line 418, please. This relates to the ProFlex machines. He concludes that:

> *There is a risk of unreliable results being produced and reported (ultimately being reflected in the likelihood ratio produced to QPS) if there is an undiagnosed divergence in performance between the ProFlex instruments.*

Which is the matter that I was just discussing with you, Commissioner.

Could we highlight the next paragraph there, please, operator. At line 422, Dr Taylor says:

However, I do not believe a suspension of laboratory functions are required whilst this additional validation work is being carried out.

He bases his opinion on three factors, which appear immediately below that. Put briefly, they are that the current STRmix settings are set as an average, which is the safest way, perhaps, of doing it other than testing each of the instruments; that STRmix is robust to changes in settings; and that appropriately qualified and trained scientists would likely have seen in the profiles if there were any dramatic issues with the STRmix results.

Could we turn back to page 82, please, operator. Again, here are the recommendations. The top recommendation here is recommendation 8. The heading appears on the previous page, but all of the text appears on this page from line 2706. The recommendation there is that additional experimental laboratory work should be carried out to show the relative differences in performance of the ProFlex instruments, and there are specifics of the technical detail of what that extra work should involve.

Commissioner, those are the most significant issues identified by Dr Taylor. That means, of course, that other validations reviewed by Dr Taylor did, in his view, have an adequate experimental design. That includes the validations of the 3500 machine, which is the current Genetic Analyzer, and the Hamilton STARlet machines, which are automatic pipetting machines. While some of those validations did not have appropriate statistical analyses, Dr Taylor did not conclude there was a risk of unreliable results from them.

When Mr Taylor gives evidence, we will deal with some of those statistical matters, but I didn't intend to deal with them at length now.

From his review, Dr Taylor has identified a number of recommendations that would improve the way validations are performed by the Queensland laboratory in the future.

Can I outline some of those now. Can we turn to

page 80 of the report and zoom in on recommendation 1, please. Recommendation 1 sets out a recommendation about what should be included in standard operating procedures. There is a standard operating procedure about performing a validation, but Dr Taylor considers it could be improved. As it says, there is an appendix there. At line 2638, Dr Taylor mentions the appendix of the "Writing Guidelines for Validation and Change Management Reports", but he considers there could be an improvement of what the standard operating procedure says to assist staff who are performing the validation task.

Could we turn to recommendation 2. Dr Taylor recommends that acceptance criteria should be based on absolute values rather than relative to the performance of a previous instrument. That means that in some of these validations that he reviewed, the validation work simply compared the new instrument to what was being produced by a previous instrument to see whether it was just as good. His recommendation is that that shouldn't be done and that's not a proper way to approach a validation, but, rather, there should be an objective standard against which the new instrument is measured.

Could we turn to page 81, please, recommendation 4. Of course, each of the recommendations is important to you, Commissioner, but I am simply highlighting some of them in this opening. In recommendation 4, there is a recommendation that for each validation carried out that requires a statistical analysis of results, an individual who has formal training or qualifications should be involved. That is in direct response to the number of validations which had problems with their statistical analysis, in Dr Taylor's view. He recommends that could come in a number of ways - a professional statistician within Queensland Health, a professional statistician outside of Queensland Health or there could be training of members of the laboratory. Mr Rhys Parry has some training in that area. I'm sure there are others also. But in every validation, there must be a person with that level of expertise.

Then to recommendation 7: of the members who sign off validation reports, at least one should be external to the group who is carrying out the validation to provide external feedback.

Can we turn to page 83. At recommendation 13, at the bottom of that page, there is a recommendation from Dr Taylor that following the completion of a validation, a presentation should be given to all members of the forensic organisation, explaining the work done, the tests carried out and the meaning of the test results. This ensures that each member understands the statements being made in their own reports within the context of how they relate to the performance of the laboratory instruments.

Commissioner, Dr Taylor will give evidence later in this hearing. Today's witnesses are Mr Parry and Ms Caunt, two of the reporting scientists at the laboratory. Ms Reece will now call Rhys Parry.

THE COMMISSIONER: Thank you.

<RHYS PARRY, affirmed: [10.02am]

<EXAMINATION BY MS REECE:

MS REECE: Q. You are Rhys Parry?
A. Correct.

Q. Mr Parry, you have provided a statement to the Commission?
A. I have.

Q. And you swore that, or you signed that statement, on 28 September?
A. Yes.

Q. Could you have a look at that statement. It's just being handed to you.

MS REECE: Commissioner, that document is [WIT.0043.0001.0001_R].

Q. Mr Parry, is that your statement?
A. It is.

Q. The contents of that statement are true and correct?
A. They are.

Q. Is there anything you wish to amend in that statement?
A. No.

MS REECE: Commissioner, I tender the statement of Rhys Parry.

EXHIBIT #70 STATEMENT OF RHYS PARRY, BARCODED [WIT.0043.0001.0001_R]

MS REECE: Q. Mr Parry, you are a reporting scientist at the DNA Analysis Unit of the Forensic and Scientific Services division of Queensland Health?
A. That's correct.

Q. What are your qualifications?
A. I have a Bachelor of Science. I have a postgraduate honours degree in forensic osteology. I have a postgraduate certificate in experimental design and data science. I have a few other minor qualifications that are not terribly relevant.

Q. You have worked at the DNA lab since March 2006?
A. That's correct.

Q. And as a reporting scientist there since August 2008?
A. Yes.

Q. What did you do prior to commencing your role at FSS?
A. I was a lecturer in basic experimental design and anatomy and physiology for the Australian College of Natural Medicine.

Q. Can you tell the Commissioner what experimental design is?
A. Experimental design is a subset of science whereby you develop a means of studying a scientific process. It's not a - just because you're a scientist doesn't mean you understand experimental design. It is basically a genre unto itself, and it basically boils down to having controls and how to manipulate variables in a controlled way so that you can make inferences based on the changes that you observe and how to analyse that data.

There are important parts about setting up experiments because it's important that you set up an experiment in the right way to basically measure the variation in the system that you are trying to understand so that you can then analyse it in a particular way in order to get the result that you are after, or at least understand the system that you are trying to understand.

Q. You had that experience prior, and then you sought that postgraduate qualification?
A. That's correct. I had done some as a part of research assistant positions that I had held in the past, and part of my honours degree was very heavily stats related. But it had been some 15 years or so since I'd done it in any great depth, and I was aware that there were some problems in the lab with the way we were doing things, but I wasn't confident enough in my memory of statistical processes to be able to say, "This is definitely what we should be doing", blah, blah, blah blah. So I wanted to go and get that qualification to, one, refresh my own memory and, as well, learn a bunch of new techniques that had sort of been developed and become a lot more popular since computing power had advanced considerably since the 1980s, early 1990s, when I was last at university.

Q. The issues that you observed in the lab, they were to do with the statistical analysis as part of the experimental design that was being undertaken as part of project work, for example?
A. That's correct.

Q. I'll take you briefly to your evidence about your concerns following the 6 June 2022 decision. I will use that shorthand, Mr Parry, because the Commission has already heard quite a bit of evidence about what that decision was and, in fact, quite a bit of evidence about people's response to it, but I would like to ask you.

At paragraph 6 of your statement, which is on the first page, you explain that after that decision, your concerns were:

> *... that the DNA Analysis Unit maintained the process of analytical staff reviewing 'no DNA detected' and 'DNA insufficient for further processing' results without the reporting scientists seeing them ...*

Could you explain what you mean by that and, in particular, what you mean in relation to DNA insufficient?
A. To my mind, the range which has been discussed at length, between 0.001 and 0.0088 as DNA insufficient - within the lab, anything below that is considered no DNA. To my mind, it's not no DNA. We've never explored that

range. The QuantTrio validation never looked below that level. If DNA is still detected in that below 0.001 and it is higher than 0.000, that's still detectable DNA. Now, it might not be sufficient to get a profile, but, to me, that's still DNA insufficient, because it was detected. So, to me, it's still correct to say that they were writing those off, because if it was below that threshold of 0.001, they were still just being written off as no DNA in terms of the way they were being reported back. But, to me, that's still DNA insufficient, and no DNA is when you get 0.000 in the quant.

Q. So your comment there is really a concern in relation to those very low quant ranges and the way they are presently being characterised or classified?
A. Yes.

Q. Your concern about the process communicated to the lab on 6 June was that you thought the decision to return to amplification only, without microcon, was problematic?
A. Yes.

Q. You say in paragraph 7 that your concern was that this change in process could result in significantly lower probability of obtaining optimal DNA profiles from samples in that now well-known range of 0.001 and 0.0088?
A. That's correct.

Q. What do you see as the implication of that? What's the problem with that?
A. That if you are just amplifying in that range, one, you are consuming sample that could be microconned down to get a better concentration of DNA in the sample in order to get a better profile; and, two, a lot of samples will then yield a no DNA profile, which again is not particularly helpful. In that range, you really need to be microconning in order to get the best result. So just amplifying is not going to do that.

Q. You explain that further in your statement. Just to move through sequentially your concerns following the 19 August decision, can you explain your response to that decision to microcon all samples to that 35 microlitre level?
A. As I said, I had mixed feelings, in that it's not optimal. When you are down to that level, the difference between 35 and concentrating it to 15 and then amplifying

is effectively you are doubling the amount of DNA, potentially, doubling the DNA. So microconning to full will give the best result, generally speaking. But I kind of understood at the time that QPS might have been losing confidence in our ability to obtain DNA at low levels because of everything that had gone on, and maybe they were hedging their bets so that they could get it analysed elsewhere if they wanted to. I honestly didn't have a big problem with that, because maybe, given everything that's gone on, that was the best decision for the community. But from a scientific perspective, it wasn't the optimal decision because microconning that extra little bit doubles the DNA, as I said, which is more likely to give you a good profile.

Q. So I think it is fair to say the tenor of your evidence is that it's not your ideal position, but it is a step in the right direction?
A. It was a step in the right direction and I thought it was an understandable one, if it had come from QPS.

THE COMMISSIONER: Q. You mean if, as you speculated, QPS decided that they were prepared to forgo the best scientific approach in favour of reserving some of the sample for testing maybe in another lab, you could understand why they would do that, although from a scientific perspective, that's not the best course; the best course is to micro-concentrate to full or at least be in a position to consider whether to do that?
A. That's correct, yes.

MS REECE: Q. Just to be clear, you talk about that that was your suspicion, that QPS were involved, but you are not aware necessarily of anything --
A. I have no firsthand knowledge of that. It was just me speculating based on the events that were occurring at the time.

Q. I will just take you, then, back somewhat in time to around July 2017. This is in paragraph 9 of your statement, Mr Parry. The questions I want to ask you here are about Justin Howes asking you to look at some data or a spreadsheet where he had carried out some calculations of some success probabilities of microconning samples in a particular range, a particular quantitation range. What you say in your statement is that he provided you with this spreadsheet. What did he ask you to do?

A. He asked me to check the calculations in the spreadsheet. He basically stated that he was looking at historical microcons and their success rates, and that was pretty much all he said about it. It was a verbal transaction, and then he sent me - well, indicated where I would find the spreadsheet and basically said, "Go and check it."

Q. When you did check it, you formed a view as to what it was that he might have been trying to examine, when you looked at that data?
A. That's correct, yes.

Q. And what was that?
A. I thought he was looking at the frequency with which you would get - or trying to work out a frequency with which you would get a useable profile based on the concentration of the original sample.

Q. You then produced a model of that data?
A. That's correct.

Q. You have provided a copy of that model. Now, you didn't find any errors in his calculations, did you?
A. No. The calculations in the spreadsheet that he had were correct for what they seemed to be calculating. But I had my suspicions that what he was aiming for was a bit different to what he was actually calculating, and so that's why I did the probability distribution calculation.

Q. So you created - or you plotted the success probabilities and you created a document for him that set those out?
A. Yes, when I went back to tell him that the spreadsheet that he presented me with had the correct - the calculations in it were all correct, I said - I basically provided him with an A4 sheet that had the plot on it and a table. There was another sheet that had a table on it that was the probabilities at - they were fairly arbitrary, but evenly spread divisions of concentration, and I said to him that I thought this was what he was looking for and explained briefly, it was a fairly brief exchange, that I didn't think percentages were the ideal way to go because the data was not distributed evenly and you needed to normalise it, and additionally it wasn't a linear relationship, it was an exponential relationship, so you had to factor that in, and he said basically, "Okay, well,

leave that with me", and that was it.

Q. Can you take you to RP-02, which should be flagged on your brief. Mr Operator, that's page 7 of this. I have it as page 7. I think that might be wrong.

THE COMMISSIONER: It is 0007, I think, what you want, Ms Reece?

MS REECE: It is not that document, though. It's [WIT.0043.0002.0007_R at 0007_R]. That document is not relevant to what we're currently looking at, Commissioner. Thank you, Mr Operator.

Q. Mr Parry, that's the plot that you have just been speaking of?
A. That's the plot, yes.

Q. Do I understand your evidence to relate to the fact that at the lower level of quantitation that you can see there, the probability - perhaps I can ask you to explain what is demonstrated on that document?
A. Okay. This is a probability distribution. You are looking at the mean quant across the bottom. Basically, I divided it into a bunch of different silos of information and then took the mean quant across each of those silos. I honestly, off the top of my head, can't remember what those silos were, but they were very narrow bands, like 0.000 to 0.0001, 0.0001 to 0.0002, et cetera, all the way across from 0.000 up to 0.0033, which is basically our optimal amp. So when you get to 0.0033, you are amplifying at the optimum level. So it was everything suboptimal.

Then the predicted probability is up the left-hand side on the Y axis. The blue line is the mean probability. The dotted red lines are the 95th percentile confidence limits for that mean. You can see at 0.010 mean quant that if you just draw a line up from that, you come to a mean probability of about 0.33 maybe, so that's a 33 per cent chance in ordinary terms, with a confidence limit of maybe - so the two red bars, the lower red bar would probably match up with maybe 0.027 and the upper one with 0.036 or 7, something like that. Do you follow me?

Q. Yes.
A. And so basically you can see that it is not a linear relationship, because it is curved, and it is not a simple

percentile sort of arrangement, because there was so much more data down at the zero end that it was basically swamping out the results. An analogy would be if you had a large jar with a couple of red balls in it and 1,000 white balls, that's going to give you 0.02 per cent chance of getting a red ball if you randomly draw one. But if the next jar has a few more red balls and the next jar has a few more red balls, if you add them all up - I'm not explaining that very well, I'm sorry.

THE COMMISSIONER: Q. Let me see if I grasp it. What we are doing is we are trying to work out the probability of getting a useable profile --
A. Yes.

Q. -- from various quants, from very low, close to zero, up to 0.008 - yes?
A. Well, no, I went further than that. I went up to our optimal.

Q. You went up to 0.3, but in the range that Mr Howes was interested in --
A. Yes, it covers that.

Q. -- it was from almost zero up to 0.008, and the problem that you struck was that, in the metaphor that you were using, if you had the very low quants, that's the same as having a jar with white marbles in it, 1,000 white marbles, and two red ones --
A. Yes.

Q. -- and what's the prospect of getting a quant out of that? Well, it is very low.
A. Yes.

Q. And at the upper limit, you have, say, 100 red marbles in 1,000. It's much better.
A. Yes.

Q. But if you then mix those two jars together --
A. Well --

Q. Sorry, you go ahead.
A. We're on the right track. The mistake I made in my initial thing was the next jar doesn't contain 1,000. It contains, say, 10 red marbles in 100 - with 100 white marbles, and the next one contains 50 red marbles out of

70 marbles, so there's 20. So when you add them all up, you can see that the 1,000 white marbles swamps out the proportions that are in the next silo and the next silo.

Q. In short, you can't just get a composite probability?
A. No.

Q. You have to look at the probability of getting the red marbles in each of the cases that you have?
A. Yes, or normalised across.

Q. And give effect to the fact that you have a lot more of the very few than you have of the very rich?
A. Yes, that's correct.

Q. If you put the probabilities all together and got an average, you get a false average, because you are not giving due consideration to the fact that most of your samples are in the rare class?
A. Yes, that's correct. Yes.

MS REECE: Thank you, Commissioner.

Q. Mr Parry, that, in summary, is why you told Justin Howes that percentage calculations weren't ideal --
A. Yes.

Q. -- for the kind of conclusion that he wanted to draw about this data. He didn't actually ask you to look at simply the 0.001 to 0.0088 range, did he?
A. No.

Q. It was a broader distribution of results?
A. It was all the data, all the microcon data, as far as I understood, and I just derived this from the data he had given me. I didn't harvest the data or reanalyse it or do anything to it. It was just the data that he provided to me - that was what it yielded.

Q. You have spoken of a table. If I could take you to RP-03 and the second page of that, which is the next page, Mr Operator, thank you. That document is some feedback that you provided to Amanda Reeves and Kylie Rika --
A. That's correct.

Q. -- during the Project #184 period. On the second page of that exhibit, that's the table that you were referring

to, isn't it?
A. I think that's a - that particular table there has been neatened up. I think I just gave him a raw table much more akin to what is on the last page of RP-01.

Q. That's page 0006. Yes, I see. So that's the table that you provided to Mr Howes?
A. It would be very similar to that.

Q. And then the neatened-up one is the one that you provided to Amanda and Kylie?
A. That's correct.

Q. In between Justin asking you to look at those figures and Amanda and Kylie approaching you, had you heard anything further about that analysis?
A. Not the analysis, not the project, no, nothing.

Q. You weren't part of that project?
A. No.

Q. When you gave that feedback to Amanda and Kylie, you were really raising the same concern about taking a percentage approach to success probabilities of those low quant samples?
A. That's correct.

Q. If I can take you now further through your evidence, you talk about your concerns about not microconning samples. This is at page 18. This is the post 6 June 2019 situation, and you say the ability to microcon to full greatly increases the likelihood of obtaining a DNA profile compared to other strategies?
A. That's correct.

Q. You go on to say that simply amplifying a sample in that range really - the probability of obtaining a useful DNA profile is not high, taking that approach?
A. In my opinion, no.

Q. That's the basis of your concern about the decision of 6 June, isn't it?
A. Yes.

Q. You go on to say that you were concerned that that change to go straight to amp without microcon would lead to the suboptimal results at the end of the process, and your

concern is that it might be seen to reaffirm or back in that 2018 decision to move to optional processing to show that it was justified?
A. It's hard to see how it could be interpreted otherwise, but, yes, that was my concern.

Q. So you can't think of any other reason --
A. I can't.

Q. -- why you would skip the microcon step and go straight to amp for those low quant samples?
A. There might be another reason, but I can't think of it.

Q. I want to ask you a little bit about reworking samples, and before I do that, I will just ask you this: when you talk about reworking in the lab as a reporting scientist, there are two aspects to that, aren't there? There are reworking of no DNA and DIFP samples, which you can do of your own volition?
A. Yes, if we get to see them, yes, we can do that.

Q. If they arrive on your work list for you to do a statement as part of a bundle of other samples that have come through that do have profiles --
A. Yes.

Q. -- you might see them and think, "I had better send that back"?
A. If a case has been assigned to us, which is usually - either it's a big operation or if it's assigned to us for statement writing, we have that option. Otherwise, we don't generally see them.

Q. The other aspect is that there might be samples which have been processed and there has been a profile or there has been a validated result sent through to police, but then as a reporting scientist, when you look at it, you have some concerns about a further step that should be taken, perhaps to enhance that result or --
A. It doesn't even have to be a result that has been sent through. Often we will rework. So we will get a result and go, "Well, based on the peak heights, I'm not confident that this is two people. I think it might be three people, so I will rework it to see if that changes." Because of the stochastic nature of low-level DNA, sometimes a peak can drop out. A second amp might bring that peak back. If

it comes back a second time and there is nothing there, then probably there was nothing meant to be there. So sometimes it can be done to just give you greater certainty as to what the profile is actually doing, particularly if it is a bit lower level.

Other times, it can be used to resolve what may be potential artefactual things, like primer binding site mutations, where you can see an obvious profile in there, but one peak seems to be missing, because it's just gone. Sometimes, DNA alleles, they have a mutation on them and they don't amplify, so you will get its pair sitting there, but it will be missing one of them, so you might redo it to confirm that; or if you find a tri-allele, which is an aberration in a locus sometimes where you get three peaks from a single person rather than just the normal two, you might rework it again to confirm that. There are other things, but often it is, you know, if you sort of - as you said it originally, there is a result that you go, "Oh, I don't like that result. I will rework it and see."

Q. If a result has already been validated and sent to the police and you want to rework it, you have to ask for permission, don't you?
A. Now, yes.

Q. That has been the case since about 2019?
A. I don't recall having to ask police permission, but then we didn't generally rework stuff that had already been sent out. It may have been the case. Certainly we would have had to have gotten permission internally. But, yeah, I can't comment on that. I don't recall.

Q. So when you say "now", do you mean the procedure where you have to talk to QPS about this?
A. Yes.

Q. What I'm asking you about is a process whereby you needed to ask permission of the managing scientist to rework certain samples.
A. Yes, internally, yes, we had to, if a result is sent out, we had to send a request to get approval.

Q. Your concern about reworking probably, as I understand it, is that it can cause significant delay?
A. It can.

Q. And that that delay can impact on whether scientists in fact undergo that rework?
A. Yes.

Q. Depending on time frames, presumably?
A. That's correct.

Q. Do you have any issue with the process whereby you have to ask permission from the managing scientist to rework samples?
A. Not so much - one, I don't know that we necessarily should have to, because we're the subject matter experts. But between that and then sending it off for rework and all the other things that can occur in the meantime, it can be a delay of two to three weeks sometimes. So, you know, if - and we often don't have that lead time. Sometimes you are writing statements with only a few days to go, so you just don't have the opportunity to rework, and so some scientists will just go, "Look, it's just too late."

Q. You have spoken at paragraph 29 that, for example, you have asked management that if sperm are observed, even if there are no DNA or DNA insufficient results, that instead of that process occurring, that it instead goes to a reporting scientist for automatic rework?
A. Yes.

Q. Your understanding is that that was done verbally and through email and that a spreadsheet was set up in November 2021. Is that Kylie Rika's spreadsheet?
A. It is.

Q. You are aware of this through your conversations with your colleagues? It's not a request that you yourself have made?
A. No, I had discussed it with Kylie and I knew she was addressing it, so I hadn't put in my own further comments, but it had been well discussed amongst the reporting section that I think most of us, if not all of us, thought it was a problem.

Q. That's because of the potential anomaly in a sample where sperm is observed, but then no DNA is detected, or insufficient?
A. That's correct, yes.

Q. Kylie Rika isn't your line manager, is she? Sharon

Johnstone is?
A. No; that's correct.

Q. But you have a good relationship with Kylie?
A. Yes.

Q. And you discuss these kinds of issues with her?
A. Yes.

Q. You have raised a concern about two aspects of the wording in witness statements. If I can just take you to that, that's at paragraph 30 of your statement, on page 6. The first that you raise is a concern that you have with the reporting of multiple unknown profiles. Can you explain to the Commissioner what you mean by that?
A. An unknown profile is a profile that we can basically pull out that has a certain strength that we can be confident that that set of alleles comes from a single individual, but it doesn't match any of the reference samples that have been provided to us as part of the case, so it's essentially a profile of unknown origin.

We designate those within the case as unknown male 1, unknown male 2, unknown female 1, unknown female 2, or if we aren't certain about the gender, we will call it unknown person 1 or unknown person 2, et cetera. However, when we are writing statements, it's not standard practice to designate between them. A lot of scientists - and I think the official wording or the recommended wording is just to report it as an unknown profile and move on, whereas I think it's important that it's designated that this unknown is different from this unknown is different from this unknown in statements. But, yes, it's not something that we do.

Q. So it's information that you are assessing and you are recording as you go long, but it's not conveyed in the statement?
A. For the most part, no. It's something that I do, and there's a couple of other scientists who do it, but it's not a universal thing. It was discussed way back when we first started doing wording for STRmix-based statements, and it was - my memory of it is that it was considered that police weren't particularly interested, or at least that's the impression that I got or was told, so we didn't do it. But I've always thought it was an issue, so I've always put that in.

But even when we do mixtures, there are often unknowns that we can pull out of the mixture that get attributed as an unknown person, but we don't write that in the statement, and no scientist does that. I don't, other scientists don't. We just say it's a mixed DNA profile that didn't match, or did match, you know, whoever from the reference samples, and if it matches - if there is an unknown that we are able to deduce from that, it just never gets mentioned.

Q. You also talk about three person mixtures that are potentially two person mixtures, and you note at paragraph 39 that this is a particularly important issue in sexual assault cases, where a sample reported as a three person mixture with no further information may incorrectly convey or suggest to stakeholders that there was a third person's DNA present, when, your words are, "it is more of a mathematical construct". Taking you back through that, this is about the statistic modelling that STRmix uses, isn't it?
A. That's correct.

Q. Often, you can see at the electropherogram stage, when you are interpreting, whether or not it's truly a third person?
A. So, yes, if at a particular region - so at every region of DNA that we look at, a single individual will generally contribute two pieces of information, one from their mother, one from their father, except in that case I talked about earlier with tri-alleles, but they are fairly rare. So if you see four alleles, you can safely assume that it is probably two people. If you see five alleles, you can usually safely assume that it is at least three people.

But sometimes you will get four alleles and little artefactual peaks that come with each allele called stutter. Sometimes those stutter will be a little bit bigger than they are expected to be, so that could be indications that there is a third person there and that it's also contributing to that same piece of information as what the stutter is.

It depends on the height of the profile. If you have a very, very clean, high, strong profile, you might go, "Well, that's just high stutter, and there are no other

indications of an extra contributor. I'm just going to call that the minimum number I can see." But if it is lower level and a bit more ambiguous, you might go, "Well, that could be a third person contributing, so I'm going to model it mathematically as a third person", because it is better to model with an extra person than to model with one too few. That's just the way the model works. But we will report that as three people, even though we're kind of just mathematically hedging our bets. It looks like two people, but there are a few aberrations that make it possibly three. I don't think that's a big issue if you are talking about a park bench, but if you are talking about a sexual assault investigation kit, arbitrarily adding in that third contributor, even though we need to do it for the analysis, can be misleading in terms of the impression it gives to the legal system.

Q. It could be significant and even suggest there were additional parties in a sexual assault --
A. Yes.

Q. -- which could be quite concerning for some victims?
A. Absolutely.

Q. You talk about your preferred wording, which might be, for example, to say, depending on the case, that two profiles were observed and that there was a third contributor, perhaps a trace contributor. That would be a preferred wording, perhaps, for what you have described as lower level?
A. I think moving forward that we need to move towards something that is a bit more descriptive of what's actually going on in the profile rather than just inserting number of contributors into a standard block piece of text, because I think it has the ability to give the wrong impression. And whilst we can always explain that on the stand, if we are asked, we don't go to court that often any more and so we don't get that opportunity.

Q. Do you go to court less nowadays than you used to?
A. Oh, yes, yes. Yes, yes. Since the legal reforms from a few years ago, it's much less common.

Q. Do you mean by that the section 95 certificates can be issued for your evidence to be - I'm sorry, committals, perhaps is more --
A. The committals, yes.

Q. I'm reminded by my learned friend that that would be more likely.
A. Yes.

Q. You used to give evidence at committal stage?
A. Yes.

Q. The risk really, you would agree, wouldn't you, for a layperson - and we are all laypeople, more or less - looking at this evidence of a three-person mix would be that there would be an assumption that that was evidence of three people, the presence of three people's DNA?
A. Yes, prima facie, that's what it says, and so, yes, unless you know otherwise, you would accept it at face value, sure.

Q. You have raised in your statement - and this is at page 10, Mr Operator, under the heading "Validations". Now, validations of processes and equipment in the lab is something which you feel particularly strongly about, Mr Parry?
A. It is.

Q. You have set out in your statement, which was provided in September, a number of concerns that you have about different validation projects which have been undertaken in the lab over time, and in particular, or perhaps initially at least, the one that you raise is QuantTrio, which was Project #152?
A. Yes.

Q. You raise your concern that that validation project is very poorly designed?
A. In my opinion, yes.

Q. It contains multiple errors that have ramifications then for other validations. Can you explain the function of the QuantTrio instrument?
A. QuantTrio is a system for quantification. Basically, it's a means by which we measure the amount of DNA that there is in a sample, which then informs us how best to amplify that DNA to get the optimal profile, which is what we basically use as our means of analysing a profile or analysing a sample.

Q. You have been provided with a copy of Duncan Taylor's

report into validations in the lab?
A. I have.

Q. And you have provided a response via email to the Commission, which has been forwarded on to Dr Taylor. Operator, could the witness please be shown, or the Commission be shown, [WIT.0009.0022.0001_R]. Mr Parry, I will leave to one side for the moment your concerns around Project #192, but I see at the outset there that you confirm that you have reviewed the statement and that you have no disagreement with his findings. You did have some concerns then about Project #192, effectively?
A. That's correct. It was more the way Dr Taylor worded it, I was just concerned about how that might be interpreted down the track. I don't inherently think he is wrong with what he has stated with Project #192. It's just I wanted some clarification around the way he had worded it.

Q. Your concern is that unless that is made explicit or perhaps elaborated on further, Queensland Health management may take the view that there is nothing wrong with that validation?
A. That's correct.

Q. And you are concerned about that being the case going forward?
A. That's correct.

MS REECE: I tender that email, Commissioner.

EXHIBIT #71 EMAIL DATED 10 OCTOBER 2022 FROM MR PARRY TO MS REECE BARCODED [WIT.0009.0022.0001_R]

MS REECE: Q. You have ongoing concerns about that project, and you think the whole thing should be redone?
A. Absolutely.

Q. I won't take you through each of the matters that you have raised in relation to validations, Mr Parry, because they are covered in that report that Dr Taylor has provided. Those responses, for the benefit of those in the courtroom, are from part 14 onwards, where Mr Parry's concerns are addressed by Dr Taylor.

I will just ask you, one of the features that you are concerned about in the experimental design or the way

validation projects have been carried out historically in the lab is - your concern is that the lab are doing repeatability and reproducibility incorrectly?
A. That's correct.

Q. Can you explain what are repeatability and reproducibility studies and why are they important for validating instruments?
A. Okay. Generally speaking in science, repeatability is your ability to get the same result doing the same experiment again and again and again. Reproducibility is generally the ability of other teams to get the same result doing the same method elsewhere.

Within a validation construct, repeatability is your ability to get the same result over and over again, and reproducibility is on different days, at different times, to get the same result, because machines heat up, ambient temperatures in the room might make a difference. Ideally you run a machine five times on a single day in quick succession, and then you run it five times on different days with different operators, and hopefully the results should be fairly similar across all those runs.

Now, when you are testing a machine, or validating a machine, the machine is the experimental unit. It is the thing you need to test, and you need to test it multiple times. The mistake that often gets made in the laboratory is that repeats are seen as multiple examples of the same sample run on the machine. So the machine gets run once, but it will have many, many repeats of the samples that we are using to measure that machine. This is what is known as pseudo replication. So it is not really replication, but it looks like it is, because of the mistake of thinking that you are testing the samples. The sample is just the means by which you are measuring the machine. You are testing the machine. You need to run the machine multiple times, not have multiple samples.

You can have multiple samples for the purpose of just eliminating any sample variation, because, you know, you take one sample and you take another one, there is a little bit of variation from the pipetting, there is a bit of variation because the samples aren't quite exactly the same, so you can take a mean of those to get rid of that variation, but ultimately it is the machine process that needs to be repeated for you to understand the variation

within the machine. You are not really interested in variation in the samples.

THE COMMISSIONER: Q. So if I'm understanding correctly, if I want to test a machine that measures something, measures a quantity of DNA, for example, then if I put in 10 samples ranging from a very low quant to a high quant, I've got 10 samples there, and they are known quantities, and I put them through, and I get around the known quantities as a result, and so I feel satisfied that I've tested the machine 10 times, but that's the pseudo testing that you are talking about, because in fact I should be taking quant number 1 and putting it through the machine 10 times; is that right?
A. Nearly. So what would happen, you need to put in the different levels. The different levels would be referred to as factors in normal experimental design language. So you would have a high concentration, a medium concentration and a low concentration, for argument's sake. What will happen in the lab generally is that there will be five or six replicates of the high concentration, five or six versions of the medium concentration and five or six versions of the low concentration, and that is interpreted as being five repeats of each of them. But it's not. It's one repeat, and they are all just pseudo replicates.

It's useful to do that, because then you can take a mean of those values and go, well, that's probably the true value of that high concentration and then the true value of the medium concentration, but you need to repeat that on another machine run, and that will give you two runs, and then on another machine run --

Q. That is to say, you take a low, a medium and a high quant and you take five examples of each and put all five samples of low, five samples of medium and five samples of high through the machine in one run and you get an adequate result, and you think you have tested the machine five times, but you say you have only tested it once?
A. That's right.

Q. What you need to do is test the machine on samples over five runs of the machine, not five samples but five runs of the machine?
A. That's correct.

Q. So you have tricked yourself in the first case,

thinking that you have done five runs, but you have only ever run the machine once?
A. That's correct. It is not an uncommon mistake, but, yes, you have got five samples, you think you have got five repeats. But it is not the five repeats of the samples you are interested in; it is the five repeats of the machine you are interested in.

THE COMMISSIONER: Yes, I understand.

MS REECE: Q. You say at paragraph 61 that you have had some success, for example, in convincing Paula Brisotto, who is the team leader of evidence recovery, analytical and intelligence --
A. That's correct.

Q. -- that repeatability and reproducibility was not being done correctly, and that process was changed for that particular project. I understand that your concern is that that has not been rolled out across the board in these sorts of validation projects?
A. It - I don't have a lot of - this is not part of my normal job, so I don't get to see a lot of these. It's only if I go hunting for them that I find them. My impression was that it did improve for a while, but then I noticed very recently a project, Project #199, where again there was a machine testing thing where they had just done two runs of the machine and called that repeatability and reproducibility, when, in my opinion, it was pseudo replicates.

Q. How do you become aware of these projects? Are you consulted about them at all?
A. No.

Q. So when you say that you had some success with convincing Paula Brisotto in this particular process that they were running, how did you find out about it?
A. To be honest, I don't remember mostly. It would either be I looked it up for some reason to see what we'd - something had made me wonder what we had found, or I was just checking to see what our results were to make a decision on something, or someone had brought it to my attention. I honestly can't remember. But I had gone in and had a look and gone, "Well, that doesn't seem right" - or read it.

It's not something that I'm ever asked to do, or the projects are not - although they are publicly - not "public", although they are available to everyone to go and look at at any time, they are not kept secret or anything, you have to sort of go and do it, and given that it takes many hours, or even days if you go back to the actual raw data, to go through a project and see how well done it was, it's not something I just have time to do in amongst my regular work. So it's only occasionally that I will see them and notice them.

Q. That approach to project work - there is no actual validation project team, is there?
A. Not that I'm aware of. There is the decision-making team who oversee all the projects, but they sort of farm out projects here and there as they need them done.

Q. I think you make some comments about what you think would be a better approach, a dedicated team?
A. Yes.

Q. What would that look like?
A. I think it would be a team of people who had been case managers or had experience in that. They would need to have at least some experience in experimental design and running projects. They would also need to have someone who had some statistical abilities and have to, at the very least, have a mentor outside, who we could send project designs and plans to for an external assessment, or alternatively employ a dedicated experimental biologist. But if they didn't want to go to that level, at least have a mentor outside the system. And I think the project team needs to be independent of management, and while reporting to management, they need to be independent of management so that the science can be done as the science needs to be done rather than the way it seems to be done now.

Q. What do you mean by that?
A. Well, like I say, the science is not being done properly. I don't think a lot of the projects that we have meet NATA requirements for repeatability and reproducibility; there are a lot of mathematical errors being made, statistical errors being made. So I think the project team - a project team or validation team would need to be able to design their own experiments as they see fit for the problem at hand and have that externally vetted rather than being told what to do or being limited in what

they can do.

Q. Is that the kind of work that you would like to be doing as part of your job?
A. Personally I would, yes.

Q. Do you feel like you are given opportunity to take on any additional role within the lab outside of your immediate job description?
A. Very rarely.

Q. I'm sorry to take you back in time, but before we move on, I just wanted to ask you one question about that three-person mix issue from the statement that you have. Have you ever spoken to any interstate or international labs about how they approach that question of how mixes are reported?
A. I haven't personally. It's possible that other people have, but I haven't discussed that with other people.

Q. Do you have a good exchange with interstate or international labs?
A. I've had very little exchange with interstate. My impression is that it's frowned upon within the lab to communicate with other labs.

Q. How have you formed that impression?
A. Just over the years, based on events that have occurred and just what other people have told me.

Q. Can I take you to this QuantTrio validation that you've had these ongoing concerns about. At paragraph 64 of your statement, which is at page 12, you speak of an email that you sent to Justin on 8 March 2018, where you raised issues in the QuantTrio validation. At RP-04 is a copy of that email with the attached analysis. That's at page 11 of [WIT.0043.0002.0001]. You see it is an email to Justin on 8 March, and then the second page is an attachment?
A. That's correct.

Q. You go through there both the issues that you have with the validation and the risks as you saw them - well, which were not specific to QuantTrio but to validations generally?
A. Yes.

Q. That really goes to the susceptibility of challenge of evidence if validations haven't been carried out correctly?
A. That's correct.

Q. Now, when you sent that email to Justin, it's not apparent from that trail that he responded. Did he respond?
A. No.

Q. When you sent it to him, it does say, "Hey, Justin, as requested". Do you recall him requesting that information from you?
A. My vague recollection is that I had raised that I thought there was an issue and that he had said, "Put it in an email and send it to me." I could be wrong on that, though.

Q. Have you had any further conversations with him since that time about that?
A. No, not that I recall, no.

Q. Sorry?
A. Not that I recall.

Q. I won't take you to some of the other validations that you raise issues to, but I will come to Project #192. This is a validation looking at the extraction process for bones?
A. Yes.

Q. We heard some evidence yesterday about some ongoing concerns that one of your colleagues, Ms Keller, has about mixed profiles being obtained in cases where really they shouldn't be, if I can put it that way. Can you explain to the Commissioner and the Commission what your concern is with Project #192, how that --

THE COMMISSIONER: What is Project #192?

MS REECE: The validation of the QIAsymphony SP for bone extraction. This is at paragraph 88 of Mr Parry's witness statement.

THE COMMISSIONER: It is part of RP-09, is it?

THE WITNESS: RP-01.

THE COMMISSIONER: 01?

THE WITNESS: No, sorry.

MS REECE: It's page 16 of Mr Parry's statement, at paragraph --

THE COMMISSIONER: No, I'm looking at the actual report. It's part of RP-09, is it? It seems to be the fourth page of that, or the fifth page of that exhibit, for some reason.

MS REECE: The actual project is in Ms Keller's report from yesterday, Commissioner.

THE COMMISSIONER: I'm looking at something called the supplementary repeatability and reproducibility, but you are looking at something else?

MS REECE: There is a supplementary repeatability and reproducibility report, which is at [WIT.0043.0003.0005]. Thank you. It's several pages into that document.

THE COMMISSIONER: Yes, that's the one I was talking about. Is that what we're discussing with Mr Parry?

MS REECE: That's a supplementary --

THE COMMISSIONER: Is that what we are discussing?

MS REECE: Yes.

THE COMMISSIONER: Yes.

MS REECE: Q. Mr Parry, you have set out a number of concerns that you have about Project #192. One of them is that you have some concerns that the results were highly variable?
A. Yes.

Q. For example, one of the bone samples had a known quant value of 0.00 and, in your view, shouldn't have been included in any study?
A. No, because if it's got no DNA in it, it skews the results. It's not going to give you a meaningful result. Trying to get as many samples as you can to understand how the system works, putting something in that you know

doesn't have anything in it isn't going to help.

Q. One of the concerns that you raise is --

THE COMMISSIONER: I'm sorry, Ms Reece, you are at paragraph 92 of Mr Parry's statement; is that right?

MS REECE: Yes, and also across the page at paragraph --

THE COMMISSIONER: Yes, but where is the document that he is talking about? In paragraph 91, he is talking about table 1 somewhere.

THE WITNESS: I think that's the original Project #192.

THE COMMISSIONER: Yes, I understand, but where is it?

MS REECE: I'm just trying to find it, Commissioner. I think it is appendix --

THE COMMISSIONER: The document that is exhibited as part of exhibit RP-09 to Mr Parry's statement is not the one you are talking about.

MS REECE: It is not, because that is a supplementary report.

THE COMMISSIONER: Yes, that's right, so where is the one that we are discussing here?

MS REECE: The actual report, 192, is attached to Ms Keller's statement, which was tendered yesterday, and it's [WIT.0003.0459.0001_R].

THE COMMISSIONER: Right. So it's exhibit 24 to Ms Keller's statement?

MS REECE: Yes. Mr Operator, if you would go to page 5 of that document. That's page 4 on the bottom. If you could scroll up one page, thank you.

Q. Mr Parry, is that table 1 there the table that you refer to at paragraph 90 of your statement?
A. That is, yes.

Q. That shows 10 casework samples that have come in for identification?

A. Yes.

Q. You speak in your statement that the normal process is to get four subsamples or aliquots of each bone, submit them all separately and that ideally they all come back with similar quants and the same DNA profile?
A. Yes.

Q. And that's how you validate that process?
A. Well, yes, that's how we analyse unknown bones from coronial and --

Q. I'm sorry, okay. And each was quanted, and their range is found in that "Original Quant Range" column?
A. These original quants were done using organic extraction, and that's the range of the quants that were obtained from the original four aliquots, so a minimum and a maximum.

Q. Then when you compare those, when you compare table 1 to the actual results obtained on page 6, you say that the results do not compare well. What do you mean by that?
A. In my opinion, the results obtained from the experimental or validation organic extraction do not correlate particularly well with the organic extraction that was used during the original casework. This, to me, is a cause for concern, because it means that there has been a process breakdown somewhere. You would expect some natural variation, but you would expect it to lie in the region of the original, around the original result, whereas some of these results are markedly different, and that, to me, is a major cause for concern over the accuracy of --

THE COMMISSIONER: Q. If we can take as an example, on page 5, what we're seeing is the known quant of samples that are being used to test the system; is that right?
A. In table 1, these were original casework - these were actual identifications that we did, and these were the quants that we got using an organic extraction method on those bones historically.

Q. Yes, so they are the samples that are being used to test the system, and we proceed upon the basis that sample 2 has a quant range between 10 and 20 ng/µL?
A. Yes.

Q. So what you expect, if the system is working well --

A. In the validation, if the organic extraction and the validation is working okay, it should be roughly 10 to 20, in the range.

Q. That's right, and so when we look at sample 2, we want to get something between 10 and 20, but sample 2 is 1.8 or 1.9; is that right?
A. That's correct.

Q. So instead of a minimum of 10 nanograms, we've only got under 2 nanograms?
A. Yes, so you're looking somewhere at - at minimum, a fifth of what you would expect in terms of concentration.

Q. So then if we go to sample 4, you are expecting something between 0.10 and 0.15, and you are getting below 0.1; you are getting 0.07?
A. That particular one is possibly just due to natural variation. Sample 4 had its own problems because, from memory, it ended up being a mixture. There was some issue with it. It ended up being removed from the experiment. But, yes, there are examples of - similar to what you said.

Q. Well, sample 7. You expected to get between 4 and 5 nanograms, but you are only getting 1.6?
A. Yes.

Q. So you see that, and the problem is, what, that that difference is ignored?
A. It appears to be. It appears to be.

Q. So somebody is running an experiment to see if the extraction works, and they are using a sample, number 2, and if the new extraction method is working, you should be getting 10 to 20 ng/µL, and you use the new method and you're getting one-fifth, 1.8?
A. This is not a new method. This is the same method. This is the same method. So when they have done the experiment, they have used those bones that have a historical result, and then they have run them using an organic extraction method, which is the same method that was used historically, and then compared that to two new methods. But given that the repeat of the historical values doesn't match the historical values, you have got to call into question whether the repeat of the organic extraction was valid.

Q. Yes. I misunderstood. You've got the historical result of X nanograms, and you are going to use the same method as the baseline for your experiment, and when the experimenter tries to do it, the experimenter doesn't get X; he gets one-fifth of X?
A. That's correct.

Q. But just carries on with the experiment?
A. It appears that way. And the supplemental has similar issues.

THE COMMISSIONER: Yes, I understand.

MS REECE: Q. The project goes on to consider extractions of samples which have been treated differently prior to running them through the QIAsymphony; is that right?
A. Sorry, can you repeat that?

Q. Project #192 was a number of different experiments using the QIAGEN --
A. QIAGEN.

Q. And, for example, experiment 2, testing the extraction in the pre-lysis method with overnight --
A. I believe so, yes.

Q. So the experiment had a number of different aspects?
A. Yes. There were two methods quintessentially that they were looking at and comparing it to organic extraction, which is considered, or had been considered up until recently, as pretty much the gold standard for getting DNA from bone.

Q. Your concerns overall with this project are that due to the variability of these results, someone should have questioned why there was that variability?
A. Yes.

Q. You set out your concerns further in your statement, Mr Parry, so I won't take you through it in any greater detail, but I do note and I want to ask you about your evidence at paragraph 99, where you say you complained about this particular validation to Ms Brisotto?
A. Yes.

Q. She took notes, she listened to you?

A. Yes.

Q. And she said it would be fixed?
A. Yes.

Q. You weren't consulted again, but you are aware that then there was that supplementary report that you have just referred to?
A. Correct.

Q. So there was an attempt, in that sense, to undertake a further repeatability and reproducibility piece of work?
A. Yes.

Q. But you still have some concerns about how that was carried out?
A. Well, yes, the methodology as written is pretty vague, and so I'm not a hundred per cent certain exactly what was done. It appears at face value to have addressed the repeatability and reproducibility issues. I still have concerns about some of the variability, because ideally the relationship between the three projects, the three different types of samples, should be the same from the repeatability to the reproducibility, and if you look at those graphs, the repeatability graph for bone 1 should look similar to the repeatability of bone 1 in the reproducibility graph. Similarly for bone 2, repeatability should look the same as reproducibility. They don't particularly, to my mind, and it is never investigated as to why there is so much variation. There will be natural variation. I just think it's way more than would be expected and should have been investigated.

THE COMMISSIONER: Q. So what we're looking at is exhibit RP-09 and page [WIT.0043.0003.0001 at 0010] and the bar graph at the bottom, if that's what it is called. That's a graph - tell me if I'm right - showing three different ways of testing for DNA, and if we just look at the first large rectangle, does that tell us that the variability is between about 0.004 and 0.012?
A. Yes.

Q. So if we keep that in mind, between 4 and 12 for bone 1 repeatability on organic, we should get the same thing when we do the reproducibility test?
A. They should look fairly similar.

Q. If the test is successful, that is to say, I've done my repeatability test and I'm getting variables between X and Y, then I do the reproducibility, and for the test to succeed, to say this is all working, I should get between X and Y or thereabouts?
A. Similar, yes.

Q. So we go to page [WIT.0043.0003.0001 at 0015] and we see the rectangle on the left-hand side is a completely different height; now it's between 8 and 12 rather than between 4 and 12?
A. Yes, and the relationships between the three --

Q. And the relationships are different between the three different forms of test, so you have failed in your search for results being repeated by the same operator doing the runs and by a different operator with a different machine doing the same runs?
A. I would argue that, yes, the breadth of some of the results, particularly the organic results, indicates that there are some issues methodologically there, but you are right in saying that the reproducibility has failed because those graphs don't look similar.

Q. Yes, the reproducibility has failed because the graphs don't look the same. What does the report conclude?
A. That - to be honest, I can't remember. It was one of the machine processes was the optimal, and organic was not.

Q. If we go to page [WIT.0043.0003.0001 at 0018] and the subtitle "Discussion", is that the relevant section?
A. Yes, it appears to be.

Q. So if you have a look at that and tell us what it means, what's the significance of what you have pointed out and how is that dealt with by the writer of this report? I've taken you to the wrong page, I think. [WIT.0043.0003.0001 at 0022], "Conclusions and Recommendations". It is the first paragraph, I think, Mr Parry.
A. Yes, that they recommended that the QIAsymphony is implemented to replace organic extraction.

Q. And what do you think of that?
A. Look, I just don't think it is a valid conclusion based on the results that were obtained.

THE COMMISSIONER: Did you want to adjourn now, Ms Reece?

MS REECE: Yes. Commissioner, I think I'm probably another 20 minutes at least with Mr Parry, so if that's convenient.

THE COMMISSIONER: We will adjourn for 20 minutes.

SHORT ADJOURNMENT

THE COMMISSIONER: Yes, Ms Reece.

MS REECE: Q. Before the break, Mr Parry, we were talking about validations, particularly one validation report, 192. In your email, when you wrote to Justin Howes in March 2018, you were talking to him about what you perceived the risks to be of the situation where there were some ongoing concerns that you had about the reliability or the accuracy of the validations of particular instruments or pieces of equipment in the lab. As I understand what you set out in the risks to Mr Howes, which is at that 8 March email, which is exhibit 4, Commissioner, you don't say that a risk, for example, is that reported profiles are unreliable?
A. No.

Q. You say that the risks are that defence might ask for copies of validation reports; they might seek expert advice as a result of their concerns with validation, for example; there might be rejection of DNA evidence due to inappropriate validation or verification of equipment; you raise the concern which I understand would flow from that, that there might be the potential for rework of hundreds or even thousands of samples; that the lab might lose scientific respect in the community and by other DNA labs; that the lab might lose confidence and respect of the community because any successful defence challenge is obviously in public, in court; and you also talk about then having to contend with ongoing defence challenge and corresponding section 95 reports as the lab's underlying science would be viewed as weak. Those were concerns that you raised with Mr Howes four years ago?
A. That's correct.

Q. It is important to note that when you spoke to Mr Howes, you perceived each of those risks to be quite low risks?

A. Reasonably low, yes.

Q. Is that low because it is unlikely people would understand the issues with validations?
A. By about 2017, defence challenges on validations were very rare. Back before 2010, they were much more common. So the risk of being challenged and having a defence expert come along who (a) thought to look, (b) understood enough stats to see that there were issues was quite low. But if you did have someone, it would lead to a chain of events, you know, not dissimilar to what we find ourselves in now, whereby, yes, our validations could all be called out and challenged. I've honestly kind of lived in fear for several years now that I would be asked on the stand if I was confident that our quality and validation processes were good, because I would have had to have said on the stand that I did not, and that would have been very problematic back at the lab if I had done that. It's just kind of fortunate that no-one has asked that question.

Q. Until now?
A. Until now.

Q. Why have you told the Commission about these concerns?
A. Because, for me, it's the last-ditch effort to have someone listen. I've tried to alert internally. We've had departmental inquiries come through and I've tried to talk to them about it. I've fed back, through departmental feedback that we get every year, these problems, that these need to be looked at. Never got a response. No-one's ever listened.

Q. When you say "departmental feedback"?
A. Every year we get a form that we go through to rate how the department - the section is going, you know.

Q. Is that the Working for Queensland survey?
A. Yes, the Working for Queensland survey. And, you know, I have mentioned that there are issues, scientific issues, there. I've mentioned to the Livingstone inquiry that there were scientific issues, to the Workplace Edge inquiry that there were scientific issues, but no-one's ever really taken it seriously. So I came forward because I take it seriously.

Q. And you approached the Commission because of those concerns?

A. Yes.

Q. I will turn to a question which harks back to something you told us at the commencement of your evidence, which is that you sought out a postgraduate qualification in experimental design and data science?
A. Yes. Originally - it was just to get some qualifications. I originally enrolled in a masters of experimental design and applied statistics, I think it was, but after doing half the subjects, I decided for a number of reasons to - I had done all the core statistical subjects that I wanted to do and I decided to not progress to the masters and just take the postgraduate certificate at that point, which is a postgraduate certificate in data science, but the original masters was experimental design.

Q. You told the hearing earlier that you did this because you saw that there was a need for that in the lab?
A. That's correct.

Q. And you saw that this was an area of interest for you as well, wasn't it?
A. It is, yes.

Q. In 2014, in your performance and development plan, which I think now is called a CSP, but it was called a PDP then --
A. Yes.

Q. -- you requested to undertake training in statistics in order to refresh those skills that you had had as part of your undergraduate degree and then in your honours degree and your early work life but hadn't used in your role as a reporting scientist?
A. I hadn't used for a long time, yes.

Q. You wanted to learn about the new techniques for statistical analysis which had arisen in the time, and you have said in your statement to the Commission that you were not actively supported to do so other than being allowed to use some professional development leave to take exams?
A. That's correct.

Q. Can you tell the Commission what support you did seek or consider seeking?
A. I looked at getting financial support for it, and I spoke to Justin Howes about it and he seemed supportive

of that and told me to - referred me on to SSDU, which is our training unit. I went and spoke to them and kind of got the impression that it was very, very low probability because it wasn't considered an essential qualification. They said I could put the paperwork in, but the paperwork - having looked at it, I just thought, no, I'll just pay for this myself and then I'm not subject to the department telling me what I can do and can't do and when I have to do it. So I paid for that myself, and that was fine, but I kind of expected that there might be a bit more support. There was a time when I wanted to photocopy some notes using departmental resources, but I was denied that.

Q. When you were told that it wasn't considered essential, your role as a reporting scientist doesn't actually include statistical design or analysis, does it --
A. No, it's not essential for me to do my day-to-day job, but I would argue that it is essential that probably someone in the section has it.

Q. Do you recall who told you that it wasn't considered essential?
A. I believe it was Pete Clausen from SSDU.

Q. SSDU is the scientific services development unit?
A. Yes.

Q. And that sits across all of the work units, including mortuary --
A. Yes.

Q. -- and forensic chemistry?
A. Yes.

Q. You are the only person in the lab, to your knowledge, with higher-level statistics qualifications?
A. That's my understanding.

Q. You have given evidence today that on at least two occasions you were actively consulted by your colleagues about statistical issues, but is that commonplace for you?
A. No, and it's not usually prior to projects commencing. It's usually - those situations where it has arisen, it's been someone has been asked to review something and they've come to me and gone, "What do you think of this?" It's always after the fact, which is a bit too late then.

Q. You say in your statement that you have heard from some staff that they have been told specifically not to seek advice from you?
A. That is what I've been led to believe, yes.

Q. You give an example of a particular project where your colleague Emma Caunt asked for your assistance for part of the VeriFiler stutter analysis?
A. Yes.

Q. This was ultimately allowed, as it was understood there was no-one else capable of running the analysis required?
A. Yes.

Q. Can you tell the Commission a little bit about what happened in the aftermath of your involvement in that project?
A. We wrote a report, the people who had done that particular analysis, we wrote a report of our findings, sent it back in, and then we received an email basically that stated that - it didn't state outright but it kind of gave me the impression that it was not well received that my name had been on the paper and that other people who were on the project but didn't contribute to that particular analysis were not listed. That was the gist of it, as I read it.

Q. You note in your statement that your perception of that experience or that incident is that it's a clear example of professional exclusion?
A. I believe so.

Q. You feel professionally excluded in your workplace?
A. Absolutely.

Q. You say at paragraph 124 of your statement that the success of raising issues depends on who raises the issue. Do you mean scientific issues?
A. Yes.

Q. Can you expand on that?
A. I think if you have a view that is contrary to what the decision-making group has, the burden of proof is much, much greater than if you have a view that is aligned with their view, and it's just my perception that if people like Kylie or Emma raise an issue, they get a lot more pushback

than other people do.

Q. What about yourself?
A. Well, I've never successfully been put on to any of these projects and no-one has ever come to ask me about them, so clearly my feedback has had limited success, so I would have to say that I also fit into that category.

Q. There was an example in your statement that you have had some success raising issues with Paula Brisotto?
A. Yes.

Q. But in general, management don't enlist you for any experimental design?
A. No, no. And that project could only have been improved because I found it, by whatever means I came to it, and then went and analysed it and said, "Hey, I think there's a problem." It was never a case of, "We've done this. What do you think of it?", or anything like that. So if I hadn't looked, it would still be doing what it was originally.

Q. It was happenstance, not design?
A. Yes.

Q. You've spoken about that there should be a separate project team that is independent from the management team. Why is that important?
A. I think because the science should stand on its own merits. Now, obviously there are going to be financial and other considerations going into what science is done, but I think just because you are in management does not make you an experimental scientist. Having a science degree doesn't make you an experimental scientist. It's a separate skill, and I think going forward that the decision-making group has to be separated from the science, and then the science is presented and the decision-making group can make their decisions based on that science, but I don't think that they should be running the projects, because, in my opinion, you have the potential for inherent bias in that sort of situation.

Q. Bias that might be based on concerns outside of the application of scientific principle?
A. Well, that and the tendency towards finding results that support your desired outcome.

Q. Which is similar to the concern you raise about going straight to amp rather than microconning?
A. Yes, yes.

Q. You do say that your perception of the lab culture is that it's misogynistic?
A. It's just my perception over the years talking to female staff that they seem to have a lot of problems getting access to flexible work arrangements, particularly if they have children. To my mind, as long as they put in their hours per day, it doesn't really matter if they go home a bit early, if they start a bit early. You know, it should be flexible so that they can take children to school or pick children up from school or go to medical appointments for the children or whatever. But it's just my perception over the years that they often have problems getting approval for long-term arrangements for those sorts of things.

Q. A lot of your colleagues are women, aren't they?
A. They are.

Q. You say at paragraph 131 that it is your belief that management have highly prioritised turnaround times, QPS requirements and cost-saving over results quality. What do you base that on?
A. On the validations that have been done, the removal of the automatic microcon process, the fact that we sort of - my perception is that we acquire a piece of machinery and then post-hoc validate it rather than getting two alternative means of performing a particular function and then assessing them both side by side and then choosing the one that's best. We get something and then - I'm not aware of any situation in which a machine has been obtained and then has gone, "Oh, that's not suitable. We'll send that back and get something else."

Q. You talk specifically about turnaround times, though. What impact do turnaround times have on what you say, which is this emphasis on turnaround times over result quality?
A. Well, there are times like, for example, with the DIFP stuff, where people aren't reworking things that they might normally, because we have to get it out for court or we have to get it out quickly. For some stuff, there's plenty of time, but a lot of stuff we get, there is not a lot of time, and so we don't rework as optimally as we might if we had more time, weren't constrained as much in terms of

having to get results back by --

Q. Sorry, I didn't hear that last bit?
A. If we weren't as constrained as what we often are in how quickly we have to get results back.

Q. Where does that pressure come from? Who talks to you about turnaround times?
A. It has been mentioned many times in the past in meetings, team meetings. We don't tend to have team meetings any more, I'm not sure why. But particularly in the period of Paul Csoban's management, there was a lot of issue around turnaround times and that we weren't getting results out fast enough and - yes. I think since then, I can't think of any specific examples recently where there's been pressure internally for that, but I think it's become one of those cultural issues that there's just this, "You need to get it out faster, faster." There's always pressure to get results out quickly rather than necessarily pushing them as far as you might like.

MS REECE: Commissioner, that's the evidence-in-chief of Mr Parry.

THE COMMISSIONER: Thank you. Mr Hunter?

<EXAMINATION BY MR HUNTER:

MR HUNTER: Q. Mr Parry, can I just ask you about the scientific concepts of accuracy and precision. They are two separate concepts; correct?
A. That's correct.

Q. Accuracy, when you are talking about a measurement, is how close the measurement is to the true value?
A. That's correct.

Q. But precision is about the repeatability of independent tests?
A. It's sort of how closely you are to that - how closely your results are to each other. So you can be - let's say you're shooting at a target. So if you're hitting in the bull's eye, you're accurate and precise. If you're missing the bull's eye, you're inaccurate. But all your rounds can be clustered in a nice ball over here - you are still precise but inaccurate.

Q. So high precision does not necessarily mean accuracy?
A. Not necessarily.

Q. The goal, when undertaking validation, is to ascertain that the results you are going to get from using a particular piece of equipment or a particular testing methodology are results that are both accurate and precise?
A. That's what you're aiming for.

Q. The data that was identified in Project #192 was neither accurate nor precise; correct?
A. In my opinion.

Q. Can I go to 6 June this year, when you learnt about the abandonment of the DIFP workflow and the amplification of what I will call low quant samples without the micro-concentration. Now, you were notified about that by email; is that right?
A. I believe so, yes.

Q. Was it immediately apparent to you that what was being proposed made no scientific sense?
A. Yes, yes.

Q. Because all that would occur if you amplified these low quant samples without first microconcentrating them is a very high likelihood of a useless set of data?
A. If you got anything at all, yes.

Q. Obviously you were aware of what the procedure was with respect to low quant samples prior to the start of 2018, when DIFP came in?
A. Yes.

Q. What was proposed on 6 June this year bore no relationship to what was being done --
A. It skipped the micro-concentration step.

Q. Am I right in thinking that you can't think of any proper scientific reason as to why someone would propose processing those low quant samples without first micro-concentrating them?
A. No.

Q. If, though, you wanted to convey perhaps to someone who wasn't across the science that, "Look, see, there's no point in testing these low quant samples because you don't

get any results", that would be one way of doing it, wouldn't it?
A. Potentially, yes.

Q. One other matter. I'm not sure that you were asked about this, but in terms of the allocation of a particular case file to one reporting scientist, that's something that does happen from time to time?
A. It does.

Q. What about, though, when results come in for interpretation in the reporting section - if, say, you were allocated a particular case file, would it necessarily be the case that the results as they came in would all come to you?
A. Not necessarily. It would depend on if it was assigned prior to samples coming in. Operations and high-priority cases are often assigned beforehand, so in that case generally the reporting scientist would be across all the case management in that sample. But sometimes if a case becomes larger and is going to be - for a statement, it will be assigned to someone, but some of the case management will have already been done, so it will be a mixture of people.

Q. Is that a desirable state of affairs?
A. Not for larger cases. I think for volume crime or low-level property crime, having large lists where people just pick and choose is fine. But I think for sexual assaults and serious person offences, it's probably better to assign cases, just for consistency.

Q. It's important, isn't it, that a scientist who might be considering reworking some samples knows about all of the results in the particular case?
A. It is generally best, yes.

Q. Because, for example, if you were going to micro-concentrate a sample that had been previously reported as DIFP, the extent to which you would concentrate it might be informed by what the other results had already provided?
A. Yes, yes.

MR HUNTER: Thank you. Those are my questions.

<EXAMINATION BY MR DIEHM:

MR DIEHM: Q. Mr Parry, I appear for Ms Brisotto. In your statement, at paragraph 99, if that can be put up on the screen for the witness, do you see in the first sentence you speak about having complained about the validation concerning Project #192 to Ms Brisotto, and you said there that she took some notes and told you that it would be fixed, but you were not consulted about the matter again?
A. That's correct.

Q. So that's a conversation that, plainly enough, on the face of it, must have occurred after you'd become aware of the content of the original report from Project #192?
A. Yes.

MR DIEHM: If the witness could be shown Ms Keller's statement, exhibit AK-24, that was up on the screen earlier - do you need the number?

THE COMMISSIONER: [WIT.0003.0459.0001]

MR DIEHM: Q. If we can go to the second page of that document, please, you will see there the sign-off on that document by the first four, at least, of the management people, and we've got dates ranging there between 6 April and 10 April?
A. Yes.

Q. And then over the page, other signatures also in that date range?
A. Yes.

Q. So that appears to be when the report was finalised. Do you have a recollection that it was soon after finalisation of that report that you became aware of it?
A. I honestly can't remember. I believe it might have been Ms Keller who brought it to my attention, but I can't remember how long after this it was.

Q. In any case, once you became aware of it and had an opportunity to see what it provided for, you had some concerns about it and you identified them to Ms Brisotto?
A. That's correct. I'm sorry, I believe I may have identified them to Justin Howes, who referred me on to Paula Brisotto.

MR DIEHM: Commissioner, my instructing solicitors, only about 20 minutes or so ago, forwarded some documents by email to the Commission. I have some hard copies but only three. If they are not available electronically, I can proceed with the hard copies, providing you with a copy --

THE COMMISSIONER: Let's see if anyone knows about this.

MS REECE: It has been sent to the operator, Commissioner, but I don't know that that has happened.

THE COMMISSIONER: Can you assist the operator in what it is we're looking for?

MR DIEHM: The first document is a document headed "Project Proposal #192 Supplemental", and it bears the date of April 2018.

MS REECE: It will have been emailed to you if anything, I think, Mr Operator.

THE OPERATOR: By the Commission?

MS REECE: Yes.

THE OPERATOR: I can't find anything in my inbox.

THE COMMISSIONER: Ms Hedge, why don't you go outside and see if you can make a phone call while Mr Diehm --

MS HEDGE: I can. I suggest you use the hard copies, as it may take a little time.

THE COMMISSIONER: We will keep doing that for the moment, yes. Mr Associate, if you go and get those documents and give one to Mr Parry and one to me, please. Thank you. Now, this one, I think, is --

MS REECE: Commissioner, it is not the same document at RP-09. That may be explored, but it's not that document.

THE COMMISSIONER: Yes. Excuse me a moment. I see.

MR DIEHM: It is a project proposal rather than --

THE COMMISSIONER: Yes, I understand. Go ahead, Mr Diehm,

we will carry on and see what happens.

MR DIEHM: Thank you, Commissioner.

Q. Mr Parry, I will give you as much time as you need to look at the content of the document, though seeing it now may have brought back a memory for you. You will see the title on the front cover of the document, and it indicates that it is a document being authored in April 2018. If you go to the second page, you will see "Document details" is the heading and it indicates there that the contact officer is you?
A. Yes.

Q. And that the version history shows this document as being version 1, with the date of 27 April 2018.
A. Yes.

Q. The document description is "Document created", and the column head is "Changed by Rhys Parry"?
A. Yes.

Q. So that indicates, does it not, that you are the author of the document?
A. It does. I honestly had completely forgotten about this document and I apologise if I have misled the court in that regard, but I had seriously forgotten I wrote that.

Q. Mr Parry, remembering the details of all of these sorts of things must be very difficult. I'm not here to offer any criticism of you for that --
A. Yes.

Q. -- but rather, really, to take up the sequence of events to see if your memory can be assisted in that regard. It is the case, is it not, that you must have identified the concerns that you had with the original report of Project #192 at some time between about 10 April, when the last of those management signatures went on it, and 27 April, when you authored this document?
A. That seems reasonable, yes.

Q. Some time in that period, you spoke to Ms Brisotto about those concerns?
A. Yes.

Q. Indeed, I then want to show you another document that

can be removed from the stapled bundle. There are three --

THE COMMISSIONER: Just so I'm following, Mr Diehm, the sequence is that the project report 192 was circulated, having been approved in early April 2018, and then in late April 2018, Mr Parry has written a project proposal for 192 supplemental?

MR DIEHM: Yes.

THE COMMISSIONER: What you are putting is that that must have happened as a result of his conversation with Ms Brisotto?

MR DIEHM: Yes.

THE COMMISSIONER: Yes, thank you.

MR DIEHM: Q. If I can show you a further document, Mr Parry, again, the same number of copies being all that is available, Mr Associate. Mr Parry, this document, self-evidently, is an email from you to Paula Brisotto, no other recipients, on 30 April 2018 at 9.07am, and it says:

> *Here is the updated project proposal. If you have any questions, please feel free to ask.*

A. Yes.

Q. Whilst it describes that as an "updated project proposal", the document I suggest to you that was attached to it is the version of the project proposal that you have with you at the moment.
A. That's probably the case, yes.

Q. Now, just to make sure that this is understood correctly, when I showed you the second page of that project proposal, 192, it said that that was version 1 - version 1.0?
A. Yes.

Q. Is it possible that there had in fact been an earlier version that you have then made some amendment to but didn't update the version number in the box on the second page of that document?
A. Look, given that I had forgotten that I had even

written this document, that is possible.

Q. In any case, what is now coming back to you in terms of your recollection is that you having identified the concerns you had and spoken to Ms Brisotto, you came to prepare, and perhaps then amend, a project proposal to investigate the very concerns that you had about the original paper?
A. Yes.

Q. We know, do we not, that in April 2020 a report that corresponded to this project proposal of yours was finally produced?
A. That's the final supplemental?

Q. The supplemental report.
A. Yes.

Q. The one that is attached to your statement as exhibit 9.
A. Yes.

Q. So appreciating, as I said to you before, about the lack of criticism for not remembering the details of these things, when you revisit paragraph 99, you would say that you complained about the validation verbally to Ms Brisotto, you explained the issues, and that what flowed from that was that you were invited or permitted to provide to her a project proposal for the investigation of those concerns?
A. Yes. I retract that second - third sentence, sorry, "I was not consulted". Clearly I was, and I had forgotten.

THE COMMISSIONER: Q. So the sequence must have been that you complained about the validation in the way that you described, and you then were invited to and you prepared a supplementary series of experiments that you put forward in project proposal 192 supplemental?
A. Yes.

Q. And sent that to Ms Brisotto, so that's the stage we have reached in the story so far?
A. Yes.

THE COMMISSIONER: Go on, Mr Diehm.

MR DIEHM: Thank you.

Q. Then what seemed to follow from there was that that proposal was acted upon and a report was prepared?
A. It appears so, yes.

Q. You weren't one of the authors of the final report, in the end?
A. No.

Q. But you became aware of its publication?
A. Yes.

MR DIEHM: Thank you. I tender those two documents.

THE COMMISSIONER: Yes. I will make the email from Mr Parry to Ms Brisotto dated 30 April 2018 at 9.07am exhibit 72.

EXHIBIT #72 EMAIL FROM MR PARRY TO MS BRISOTTO DATED 30 APRIL 2018 AT 9.07AM

THE COMMISSIONER: Proposal project number 192 (supplemental) dated April 2018 will be exhibit 73.

EXHIBIT #73 PROJECT PROPOSAL NUMBER 192 (SUPPLEMENTAL) DATED APRIL 2018

MR DIEHM: Thank you, Commissioner. Those are my questions.

THE COMMISSIONER: Thank you. Mr Rice?

MS REECE: I'm sorry to interrupt. If it assists anyone further at the Bar table, those documents are now with the operator and can be placed on the screen.

THE COMMISSIONER: All right. I don't think it's necessary, I guess.

MS REECE: I don't know my learned friends' intentions.

THE COMMISSIONER: If anybody needs it, we can do that.

<EXAMINATION BY MR RICE:

MR RICE: Q. I just want to ask you about one matter in your statement, Mr Parry. It's at paragraphs 112 and 113

on page 20. Just take a moment and refresh your memory of those.
A. Yes.

Q. Is it right that by way of background to that, in the first half of 2021, there was a project being undertaken relating to VeriFiler?
A. Yes, that's my understanding. I was not involved in the early parts of it, so I'm not certain when it began.

Q. I think you relate in paragraph 112 that Dr Scott was the project leader for the project that was under way?
A. That's my understanding.

Q. In addition to her, is it right that there were a number of reporting scientists assigned to that project as the so-called VeriFiler team?
A. That's my understanding.

Q. Is it right that those scientists - that is, the reporters associated with the VeriFiler team - were Ms Johnstone, Ms Caunt and Ms James?
A. At least. I don't know if there were more, but those people were on it, yes.

Q. When you say in paragraph 112 that you understand or believe that Emma requested your assistance for part of the analysis associated with that, the relevance of Emma is that she was one of the VeriFiler team of reporting scientists; correct?
A. That's correct.

Q. In due course, the document that you refer to as exhibit RP-10 was prepared, co-authored by yourself, Ms Caunt, Ms James and Ms Adamson, as we see in paragraph 113?
A. Yes.

Q. Perhaps we will have a look at that. It's RP-10. We can see in the heading of that the four authors; correct? [WIT.0043.0004.0001 at 0010]
A. Yes.

Q. If we can go to page 0037 of that same exhibit, Mr Operator, we come to the email that you exhibit as RP-11. Do you recognise that email?
A. Yes.

Q. You will see it is an email from Dr Scott to four persons, being the four authors of the report that we just looked at the first page of; correct?
A. Yes.

Q. You will see, as the email opens, that Dr Scott thanked you four authors for your extensive assistance and the incredible value of the document that had been prepared; correct?
A. Yes.

Q. She expressed her appreciation for your effort and the hours put into it; correct?
A. Yes.

Q. In the third paragraph, she makes mention that, "We have a VeriFiler team", being the three that I referred to you before, and she mentions workshops that had been conducted, again, to assist with the progress of this particular project.
A. That's what it says, but I have no knowledge of that.

Q. I was going to suggest to you that there were two workshops conducted to which a range of scientists were invited for the purpose of sharing ideas in a collaborative way to advance that project?
A. Possibly. I may have even attended them. I don't recall.

Q. That's what I was going to suggest to you, that you were invited?
A. Okay.

Q. As part of your acceptance into participation in this project - you were invited to participate in one of the two workshops?
A. Possibly, yes.

Q. If we go to the second paragraph, this is the one that you make mention of specifically in your statement. Dr Scott said:

> *I do however feel a little uncomfortable about how we are proceeding with authorship on this one.*

A. Yes.

Q. Now, the authorship she is referring to is the document which is RP-10, which, as we saw, had four authors, two of whom were part of the VeriFiler team and two of whom were not; correct?
A. Yes, I guess so, yes.

Q. The upshot of that is perhaps in the final paragraph bar one, commencing with the words:

> *Given that we still have a long way to go ...*

You will see Dr Scott was looking for some clarity on the authorship, which would become more complex as the project proceeded if it wasn't sorted. That's what she says, in effect?
A. I guess you can interpret it that way, yes.

Q. In relation to that authorship, you will see in the next sentence she expressed her preference that all VeriFiler reporting and interpretation of reports be co-authored by the three persons who were the reporting scientists associated with this particular project; correct?
A. Correct.

Q. But she goes on to say that those three should be co-authors "as a minimum" - that is to say, not to exclude other authors; do you agree?
A. Well, that's - yes, yes.

Q. The reason is so that it was clear that the VeriFiler reporting team, being the three reporting scientists named here, would be overtly associated with support for the document by virtue of their co-authorship; that's the point she is making, is it not?
A. I guess so.

Q. In terms of incorporating other staff, you see from the final sentence that she is not dismissive of that but would appreciate a discussion to regularise the authorship, so that, at a minimum, the VeriFiler reporting scientists were all included for the reasons she gave; correct?
A. Correct.

Q. Well, arising from all of that - your original agreement to participate in this project, your participation, as I put it to you, in a collaborative workshop, and Dr Scott leaving it open to additional authorship beyond the three reporting scientists - this is not, as you say, a clear example of your exclusion from a professional exercise?
A. I took it at the time to mean that it was irregular that my name was on it and it wasn't listed as per the VeriFiler team. Now, I can't recall why Sharon's name wasn't put on it originally, but essentially, from my memory, Sharon didn't contribute to that particular aspect of it, so it was just written as the four authors who contributed. I took this to mean that that was inappropriate, that my name shouldn't have been on it because I wasn't an official VeriFiler team member. I'm not sure why we would need explicit discussion as to an author being on a paper that they had co-authored. So I took it to mean that my name shouldn't have been on there.

THE COMMISSIONER: Q. Mr Parry, if we look at the third-last paragraph, beginning, "However this document does not contain all VeriFiler reporting and interpretation sub-project staff" - maybe I will start again. I'm just not familiar with this notion of authorship. What does it signify if your name is on the cover of a report, such as project report 192, which is exhibit 24 to Ms Keller's statement, which has the names of four scientists on the title page; what is that supposed to tell anyone? What does that mean? What's the sign in your laboratory if a name appears there?
A. That you have contributed to the project in some way or that you have had oversight of it, is my understanding. I'm not sure if there are hard and fast rules about it. Normally, the first person will be the major writer, the second or third author will be people who have contributed largely to the research, and the last two names will be project supervisor and the last name will be Cathie Allen, who, as the chief scientist, oversees all projects so is on all projects.

Q. So in this case, RP-10, the report relating to stutter, Ms Caunt, Ms James, Ms Adamson and your names are there?
A. Yes.

Q. In the first place, do we take it that the four of you worked up this report, did the work for the purposes of this report, or not?
A. This was just a sub-report to report back on a small aspect of the overall project, so we didn't think it needed to --

Q. Yes, I understand. Whatever it was, your names were there because the four of you did the work that led to this report; is that right?
A. Did the analysis and reporting, yes.

Q. So what was Ms Brisotto's concern about the document containing all VeriFiler reporting and interpretation sub-project staff? Was it that she wanted all staff within the relevant area to be credited on the cover of a report like the one we're discussing? Is that how you understood it?
A. Yes, that other people should have been on it.

Q. Just so I understand it again, in the second-last sentence of Ms Scott's email, she says:

> *My personal preference would be that all VeriFiler reporting and interpretation reports were co-authored by Sharon, Emma and Cassie (as a minimum) so that it is clear that you support the document as written.*

That suggests to me that Ms Johnstone, for example, might not have written the document or done the work involved in the document, but her name ought to be on it to signify that she has read it and approved it, that she takes responsibility for it. Is that how you understand that?
A. That's a possible explanation, yes.

Q. Then in the last sentence, perhaps this is the key to my understanding of it, "other staff":

> *If we incorporate other staff ...*

Then Ms Scott would appreciate a discussion. Who are the other staff, that is, non-VeriFiler reporting and interpretation sub-project staff? Are you a part of that staff - were you a part of that staff?
A. I was not officially on the project. I was just

brought in for this one particular analysis.

Q. To do some particular work on it, to do with statistics?
A. Yes.

Q. So are you the "other staff"?
A. I assume so.

Q. Is there anybody else who is --
A. There may have been in other aspects of the project. I wasn't part of any other part of the project.

THE COMMISSIONER: All right. Thank you, Mr Rice. I'm sorry, I interrupted you.

MR RICE: Q. With reference to the words "other staff" in the final line, can I suggest that that must be a reference to yourself and Ms Adamson, being two of the four authors of this document who were not part of the VeriFiler reporting team?
A. Potentially, yes.

Q. Your participation by way of assistance in this project had already been agreed, had it not, as per paragraph 112 of your statement?
A. Yes.

Q. What I want to just suggest to you is that having regard to your agreed inclusion in this project, insofar as you have taken a professional slight about this email, none is really justified. What do you say to that?
A. Well, that's the way I took it at the time. Could I have misinterpreted it? It's possible.

MR RICE: Thank you.

THE COMMISSIONER: Mr Hickey?

<EXAMINATION BY MR HICKEY:

MR HICKEY: Q. Mr Parry, I appear for Cathie Allen and for Justin Howes. Could I ask you questions, please, just to clarify some of the things that you have said in your statement. The first is, could we go, please, to paragraph 9 of your statement, this is where you give some evidence about a conversation you had with Mr Howes in July

of 2017 --
A. Yes.

Q. -- in which he asked you to review those calculations in the spreadsheet that you were taken to very early in your evidence today?
A. Yes.

Q. And what you say there is:

He stated he was data mining the results of historical microcon processes but provided no other detail.

Can I suggest some things to you to see whether it might prompt your memory about things that were discussed at that meeting. Do you recall that he mentioned that he was re-looking at the data for auto-microcons based on anecdotal feedback from staff on their feeling that not much was being obtained?
A. That's possible.

Q. You would accept that he may well have said that to you?
A. He may have. I don't recall - I don't recall. It certainly wasn't presented to me as a project with these defined goals and outlines, so he possibly did.

Q. And he asked if you could look at the data to check, and if there were any other ways to look at it?
A. No, I don't recall being asked to look at it in different ways, it was just to check the document.

Q. Now, were you aware that you had been listed as a technical reviewer on the project plan for Project #184?
A. I was not aware of that until fairly recently.

Q. But you are aware of that now?
A. Yes.

Q. Then can we go, please, to paragraph 53 of the statement. Here you are giving some evidence about an issue that had been identified in the forensic register, and you describe in paragraph 53 that in 2019, further information had come in for a case, which has been redacted, which you weren't aware of until someone told you sometime later.

A. Yes.

Q. Were you aware that the situation that you have mentioned in paragraph 53 was the reason why an enhancement was raised in the forensic register to help with the awareness of items received post-statement?
A. Whether that exists now, I'm not sure if it's been implemented, but that was - I believe that was one of the reasons - that particular instance was one of the reasons why it had been raised.

Q. I think you said just now that you are not aware whether it has been implemented. If in fact it has been implemented, would you agree with me that that is an appropriate outcome to a situation where you had identified something that should be improved?
A. Yes, sure.

Q. Now, in paragraph 109 of your statement, if we can scroll on to that, please, you give some evidence about staff being "routinely", you say, "denied the ability to obtain new skills". You say:

> *Secondment or temporary release to work elsewhere is not an option.*

In particular, you give some examples, and one of those is Ms Julie Connell. Now, I think you say in your statement that you have been working at forensic services since 2006, so I presume you are aware of the comings and going of Ms Connell over time?
A. Yes.

Q. And is it that to which you refer in saying that her personal circumstances couldn't be accommodated?
A. My understanding was she wanted to get secondment to the AFP in Canberra and wasn't allowed, so she quit her job here, went to work for them for two, three years, I can't remember, then came back, reapplied for a position at FSS and acquired that position and worked there for some time before then leaving to work for the police.

Q. Can I just put some facts to you to see whether it accords with your understanding of Ms Connell's situation or not. The first thing is that Ms Connell requested a 12-month secondment to take up a position at the Australian Federal Police?

A. That's my understanding.

Q. And that that secondment was in fact approved by Greg Shaw?
A. That was not my understanding.

Q. She then applied, having gone on that secondment, for an additional 12 months' secondment. Were you aware of that?
A. No.

Q. And that she advised, in fact, that she was in a permanent position at the AFP when she sought that additional 12 months' secondment. Were you aware of that?
A. No.

Q. Were you aware that advice was sought from workforce support and HR, and that Mr Shaw was advised that it wasn't in FSS's best interests to approve the second request for secondment?
A. No.

Q. And that the decision that Mr Shaw ultimately made not to approve that second - the extension of the secondment, was based on that advice?

THE COMMISSIONER: I'm sorry, Mr Shaw got advice from whom?

MR HICKEY: From HR and workforce support. I presume that's someone within the department.

Q. You weren't aware of that?
A. No.

Q. I presume you are aware that in 2011, Ms Connell came back to FSS?
A. That would seem probably about right, yes.

Q. About right?
A. Yes.

Q. Were you aware by way of background to that that she had contacted Ms Allen about a position in forensic DNA analysis?
A. No.

Q. And that all that was available at that time was a temporary position, not a permanent position?
A. No.

Q. But, in any event, she was offered that position and was welcomed back - I presume you are aware that she was welcomed back?
A. It was my understanding that she had applied for a job, but I could be wrong.

Q. And then, because it was only a temporary position that was available to her at FSS, she took up a permanent position with Queensland Police?
A. Eventually, yes.

Q. So given that alternative set of facts that I have suggested to you, would you agree with me that your using - if you assume that all of that is true, would you agree with me that, by contrast to what you have suggested in paragraph 109, at least in the case of Ms Connell, she was given an opportunity to seek a secondment and to work elsewhere for a period?
A. If the facts as you lay them out are the case, then, yes, I would concede that my understanding of the situation was incorrect.

Q. My second-last question is this: if we could just scroll on, please, to paragraph 126, here you give some evidence about some what you say is limited success you have had with raising issues with Ms Brisotto:

> *... but management never come and ask how an experiment could be designed or how best to analyse the results. As such, many of our validations are invalid.*

You have given some evidence about that earlier today?
A. Yes.

Q. Are you aware that experimental design is provided to all management team members so that management team members can seek the input from staff members generally?
A. There is a project proposal which outlines the experimental design which they assess and decide whether it should move forward or not.

Q. Were you aware that it was open to you to ask your

line manager to be actively involved in the review of experimental design from time to time?
A. No, because we don't know that the projects are taking place, generally speaking.

Q. Your current line manager is Sharon Johnstone; is that right?
A. That's correct.

Q. How long has she been your line manager?
A. Since 2018 or 2019.

Q. And prior to that?
A. For a short period it was Matt Hunt.

Q. And prior to that?
A. Amanda Reeves.

Q. Did Amanda Reeves, for instance, ever tell you that it was open to you to express a general interest to be involved in experimental design?
A. She may have, but I have expressed general interest in having a part - in having a role in these projects.

Q. And you expressed that to your line managers?
A. I had expressed it to a number of people.

Q. Can I ask my question again: you had expressed it to your line managers?
A. I believe so. Maybe not Sharon, but certainly prior to that.

Q. Now, the final issue is you were asked some questions about some evidence you give in your statement, and I'm afraid I can't tell you the immediate paragraph reference but it is probably of no particular moment - you suggested that the culture at the lab is misogynistic?
A. That's just my perception.

Q. I understand that. And you give as an example of that, as I understand your evidence, the fact that there is some inflexibility around a desire by staff to have flexible working arrangements?
A. That's the principal - one of the principal reasons, yes.

Q. And you mention people who have childcare commitments

and things like that. Is it the case that you are aware of any situation where a man has been granted flexible work arrangements that were refused to a woman in similar or identical circumstances?
A. Around childcare?

Q. Yes.
A. Not that I'm aware of.

Q. I'm not intending to be tricky or smug about this. I'm just trying to understand the four walls, if you like, of the suggestion that it is misogyny. Is there anything other than that apparent inflexibility around work arrangements which you point to as evidence of the misogynist nature of the culture of the lab?

THE COMMISSIONER: I don't know that he was saying it was misogynist; I think he was saying that the climate is inflexible, the culture is inflexible, so that, for example, scientists who seek alteration in hours for childcare purposes are not granted that. It's not that females are treated differently from males, it's just that that bracket of employees are not given the latitude that they want. That's how I was understanding it, but I might have missed something.

MR HICKEY: Can I explain to the Commissioner why I'm asking the question?

THE COMMISSIONER: Yes, certainly.

MR HICKEY: The evidence that is given in paragraph 129 is:

> *I feel that despite the gender balance of the management team, the laboratory culture is quite misogynistic.*

THE COMMISSIONER: Yes, I see. No, no, you are quite right. Carry on.

MR HICKEY: You are right, Commissioner, that he goes on to describe that inflexibility.

THE COMMISSIONER: No, carry on, I had not appreciated that that word was there.

MR HICKEY: Thank you, Commissioner.

Q. So you understand, Mr Parry, what I'm trying to explore with you is whether there is something in the second sentence of what you say in paragraph 129 when you say "the lab's culture is quite misogynistic"?
A. I can see that that might be - might be wording that is a bit more forceful than I had intended. I would still argue that the inflexibility towards female staff and their childcare commitments is inherently problematic, so to me, it's an example of a somewhat misogynistic sort of view of HR rules.

Q. I think the point you make in the second sentence, with respect, is clear enough, and you can understand why, in the current climate, a word such as "misogynistic" carries with it particularly important connotations, and so it's important that we understand, and the Commissioner understands, with real precision what you intend by that term "misogynistic", and you have just said it might be given greater emphasis than you intended. Is it something more than what you describe in the second sentence?
A. I would probably be using it more in its original, not so much in its current cultural context. I do think it's - I use it in the sense of there are some rulings that seem to be unfair towards the female staff in FSS.

Q. Again, I don't intend to be painful about this: is that because that is the nature of the requests which are being made, or is it because, in your view, they are females who are making the requests?
A. It just seems to be a lot around - there just seems to be a lot - well, it's going to be female staff making the requests, because they are the mothers who have the children who, you know - I'm probably not the best person to ask about this. This is just my perception of how it is. Ask some of the female staff, you know. I'm sure they are more aware of how it is, because they live it every day. If they say that I'm off track, then I will recant that and retract it, but that's all I can tell you.

MR HICKEY: Thank you, that's helpful. Those are the questions.

THE COMMISSIONER: Thank you, Mr Hickey. Anybody else? No?

MS REECE: Commissioner, I do have some re-examination, if I might, thank you.

THE COMMISSIONER: Yes, go ahead.

<EXAMINATION BY MS REECE:

MS REECE: Q. Just on that point, Mr Parry, how is it that you come to know about any concerns about flexible work arrangements?
A. Because I hear the female staff talking about it frequently.

Q. And what do you observe, what impact does that have on them, that issue of flexibility in the workplace?
A. Many of them seem very frustrated about their ability to obtain it or the hoops they have to jump through in order to get it.

Q. And is flexibility of work arrangements sought for other reasons, other than childcare and child-caring issues?
A. Yes, they are.

Q. For example, ill health or disability?
A. Yes.

Q. Perhaps caring for other family members?
A. Yes.

Q. Do you observe the same issues arising with flexibility requested for those types of arrangements?
A. My impression is that it is easier to get it for those reasons than it is for childcare. But that, again, is just my perception. You would be better off asking the people who actually are involved.

Q. Mr Parry, you have been asked some questions about this proposal, which you had forgotten about?
A. Yes.

Q. If I could ask that it be put up, I understand it has been sent through to the operator. It's the proposal itself rather than the email. "Project Proposal 192 (Supplemental)" - you have still got that document in front of you in hard copy?
A. The hard copy, sorry, yes.

Q. Not the email, the project itself. While we're waiting for it to come up, I will just ask you to look at page 2.
A. Yes.

Q. The way that it has been presented in evidence is that it was attached to an email to Paula Brisotto as a Word document. You would agree with that?
A. Yes, yes.

Q. Was this proposal, to your knowledge, ever accepted by the management committee?
A. I don't know.

Q. In the proposal, there was a space there for signatures. If this document had been accepted by the management committee, or approved, would you expect that there would be signatures on the version that was approved?
A. You would expect, yes.

Q. That follows the same pattern with the final report, doesn't it - that there is a page where the authorship is reflected?
A. Yes.

Q. For the proposal, it is the approval, and for the report, it is the authorship?
A. Yes.

Q. I think I asked you, you are not aware that this actual proposal was accepted by the management committee?
A. Not that I'm aware.

Q. Is the methodology the same as between your proposal and the work that was carried out and reported on two years later?
A. There are similarities. Without going through it fully, I couldn't say. It's possible that they followed the methodology, based on the results they obtained. My bigger concern with the supplemental bone project is the results themselves, the disparity between the repeatability and the reproducibility, the disparity between the expected organic extraction quants and the obtained experimental extraction - organic extraction results, not so much with the design of the supplemental.

Q. Your concern about the methodology in the supplementary report was that it was vague?
A. Yes.

Q. And the way that it was expressed in the report, but you say that your concern was the variability of results - and this is at the bottom of paragraph 100. Is it fair to say that the variability of results and the analysis of those results are what you're concerned about in relation to that supplementary project?
A. Yes, it's the results themselves, not so much the design, because at face value, they had corrected the problem with the low sample number or the n=1 issue, and they had corrected the repeatability and reproducibility part, it's just that, as written, the supplemental Project #192, the methodology is quite vague. It doesn't actually refer to this document, this project.

Q. So it doesn't refer to the project proposal?
A. It doesn't refer to the comparison of organic phenol chloro, et cetera, that I can see.

Q. Would you like to consider the document after lunch and then briefly return to just answer a final question on that?

THE COMMISSIONER: Q. I would be interested, Mr Parry, in knowing whether and to what extent the proposal that you put forward does or does not conform to the project as it was carried out.
A. Sure.

MS REECE: Thank you, Commissioner.

THE COMMISSIONER: 2.15, Ms Reece?

MS REECE: Yes, thank you.

THE COMMISSIONER: We will adjourn until 2.15.

LUNCHEON ADJOURNMENT

THE COMMISSIONER: Yes, Ms Reece.

MS REECE: Thank you, Commissioner.

Q. Mr Parry, before the break, you'd been provided in

cross-examination with a - if we could go to the last document that was on the screen, it was "Project Proposal #192 (Supplemental)". This is the document that you had emailed to Paula Brisotto?
A. Yes.

Q. And then you were shown a document by - I'm sorry, this is the document that you were shown. Have you had an opportunity to go through that and also to go back through the actual report for Project #192 over the break?
A. Yes, yes.

Q. I will take you to another document which you had also been shown just shortly before we commenced, but I will start with what you were first asked to do, which was to over the break look over the project proposal that you put together and compare it with the report. Did you have any comment that you wished to make about that?
A. It appears to have followed the structure of the design I put forward, in that they did the repeatability testing as appropriate, reproducibility testing as appropriate, used an appropriate number of repeats for individual bones. So that was all good. They didn't do the statistical analysis that I suggested. That being said, it could be argued that it's not necessary to do that, that a series of box plots would give you the information that you wanted. So, yes, it looks similar enough.

Q. Mr Woolridge, if you could just scroll down to I think page 3 of the document currently - no, sorry, the second page. You created this document, and version 1.0 was dated 27 April 2018?
A. Correct.

Q. You've now been shown, just shortly before court, another document. I know that this has been provided, Commissioner, by Mr Diehm and his instructors, and it has been emailed to Mr Woolridge. Does that now appear to the right-hand side of the screen, Mr Woolridge? Thank you. If you could scroll down on that second document, when you look at that document there, you see, don't you, Mr Parry, that it was created on 12 March 2019 by Luke Ryan?
A. Yes.

Q. And it was signed off, variously, by a number of people on 5 April 2019?

A. Yes.

Q. You have had a chance to look at that second document, which is now on the right-hand side of the screen?
A. I have.

Q. Are you able to comment on whether it is similar, identical, different in some way to the document which is on the left-hand side of the screen, which is the draft that you provided?
A. It's similar. Again, they've dropped the statistical analysis that I suggested. I can't say that they've followed exactly what I proposed, but they've done something very similar - similar enough that I wouldn't have concerns with the actual manner that the experiment was carried out in. I still have concerns about the results that were obtained and that were accepted. Based on what I said earlier about the disparity between the expected results and the final results and the lack of consistency between the reproducibility and repeatability, it's the results I still have concerns with. But in terms of the structure of the experiment, no, it's essentially what I - in essence, it's what I proposed.

Q. It's what you proposed, but it's proposed a year later?
A. Yes.

Q. And not by you?
A. No.

Q. By Luke Ryan?
A. Yes.

Q. And signed off by people who also don't include you?
A. That's right.

Q. And you weren't involved at that stage?
A. I don't believe so.

Q. In fact, you weren't aware that this proposal had been put forward?
A. I don't recall.

Q. You weren't given access to it?
A. No, I don't think so.

Q. With experimental design, when you set up a project like this and you design an experiment, is that the end of it? Do you essentially set an experiment and it continues from there, or does there need to be some ongoing process of adapting the experimental design as things progress?
A. It depends on how big your experiment is and what you are trying to achieve. A simple experiment like this, it's really just a one and done. That being said, when you're assigning it to a process that you are going to be using, you really do need to come back three, six months later and then have a look at results that are coming out to see if what you have done in your validation is consistent with what you are getting down the track, so there needs to be some revisitation. But for a small experiment like this, it's just a one and done kind of deal. If you had a larger project where you had multiple experiments where one experiment might lead to what you are doing further down the track, yes, there's a constant revisiting and re-evaluation and reassessment of what results are showing you, to guide you as to where you might go later on.

Q. Mr Parry, when you look at the essence of what you have put forward to Ms Brisotto in 2018 and you look at what was done in 2019, does that play in at all to what you were saying earlier about professional exclusion?
A. I would have to argue yes.

MS REECE: Commissioner, in a moment I'm going to ask Mr Woolridge, as the final part of Mr Parry's evidence, to show two pages side by side of those two documents. I'm just having those references given to me, Commissioner. On the left-hand side, the document from 2018, Mr Woolridge, could you please scroll to page 5. I believe that's the page numbers. And the same page number for the second document.

Q. When you look at those two documents, Mr Parry, can you see that under "Methods", under "Sample Selection" at 4.1, there is a bigger box of text there, you would agree, for the "Sample Selection"?
A. Yes.

Q. Can you comment on whether then, underneath, with "Bone/teeth crushing", "Organic", "DNA extraction", "QIAGEN", "Pre-lysis", they are all the same headings, aren't they?
A. They seem to be the same, yes.

MS REECE: Thank you, Commissioner. That's all the evidence of this witness.

THE COMMISSIONER: Thank you. Thank you, Mr Parry, for your assistance. You are free to go, or you are free to stay as well.

<THE WITNESS WITHDREW

MS HEDGE: Commissioner, I call Emma-Jayne Caunt.

THE COMMISSIONER: Yes. That's Mr Parry's statement there, isn't it?

MS REECE: Commissioner, I should tender those documents.

THE COMMISSIONER: Yes, which two documents are you tendering?

MS REECE: The proposal document from 2018, which is on the screen now - that one was already tendered. And then it's the - I'm sorry, I just can't remember the exhibit number, Commissioner.

THE COMMISSIONER: There is only one you are tendering?

MS REECE: Yes. I'm now tendering the one which is now on the screen.

THE COMMISSIONER: So you are tendering --

MS REECE: Signed proposal from 2019.

THE COMMISSIONER: -- "Project #192 - Validation of QIAsymphony", dated April 2019, version 2.0. That will be exhibit 74.

EXHIBIT #74 "PROJECT #192 - VALIDATION OF QIASYMPHONY", DATED APRIL 2019, VERSION 2.0

MS REECE: Commissioner, that is actually a proposal. It doesn't state it on the cover sheet, but it is apparent that it is a proposal rather than the final report, and I say that because there is a report bearing the same name.

THE COMMISSIONER: Yes, all right.

MS REECE: Thank you.

<EMMA-JAYNE CAUNT, sworn: [2.37pm]

<EXAMINATION BY MS HEDGE:

MS HEDGE: Q. Your name is Emma-Jayne Caunt?
A. It is.

Q. You are a reporting scientist at Queensland Health Forensic and Scientific Services?
A. I am, yes.

Q. You have provided two statements to the Commission; is that right?
A. Yes.

Q. I will put the first one of those on the screen, [WIT.0004.1193.0001_R]. This is your first statement?
A. Yes.

MS HEDGE: I tender that statement, Commissioner.

EXHIBIT #75 STATEMENT OF EMMA-JAYNE CAUNT, BARCODED [WIT.0004.1193.0001_R]

MS HEDGE: Q. Could I have the second statement on the screen, [WIT.0004.1224.0001]. Is that your second statement?
A. It is, yes.

MS HEDGE: I tender that statement also.

EXHIBIT #76 STATEMENT OF EMMA-JAYNE CAUNT, BARCODED [WIT.0004.1224.0001]

MS HEDGE: Q. Can we return to the first statement, [WIT.0004.1193.0001_R], and can we zoom in on the background section, please. You started your reporting scientist career in the United Kingdom; is that correct?
A. That's correct, yes.

Q. You were trained by experts in forensic biology at the Forensic Science Service in the United Kingdom?
A. That's right, yes.

Q. You worked there from 1999 to 2006?
A. Yes.

Q. And then emigrated to Australia?
A. Yes.

Q. And worked at Queensland Health since 2007?
A. Yes.

Q. We see in paragraph 5 that between 2008 and 2013, you acted - I'm sorry, is it from those five years or is it between?
A. Yes, it's the five years, yes.

Q. In those five years, for those five years, you acted as a senior scientist position, which are the positions currently held by Kylie Rika and Sharon Johnstone; is that right?
A. That's right, yes.

Q. I only say that to identify it for everyone here. So you acted in that position for those five years, and during that time you acted up into the position currently held by Mr Howes, that is, the team leader of forensic reporting and intelligence; is that right?
A. That's right, yes.

Q. So your experience spans not only reporting for a long period but also the management of the lab in Queensland?
A. Yes.

Q. Now, can I start by asking you about the Options Paper. When it was done in 2018, you were a reporting scientist?
A. That's right, yes.

Q. Were you told about the Options Paper before it was presented to police?
A. I don't believe so, no.

Q. But it was communicated to you afterwards that a decision had been made to implement the DIFP threshold?
A. That's right, yes.

Q. You immediately raised a concern about that process; is that right?
A. Yes, I did.

Q. Can we turn to EC-02 of that statement. I'm sorry, I don't have the number, but I will obtain it. It is [WIT.0004.1227.0001]. I'm sorry, one moment. I'm sorry, Commissioner, I didn't realise I didn't have that number. [WIT.0004.1195.0001]. If we turn to the second-last page of that exhibit - one page back, please, operator. At the bottom of the page - can we zoom in down there - this is an email from Mr Howes, and that's the email where you were told of the Options Paper?
A. Yes, that's right.

Q. Turning over on to the next page, please, operator - we have seen this email in the first week of hearings. This is the email where Mr Howes suggested that wording, "low levels of DNA were detected in this sample", as a potential way that might be used in a statement. Do you remember that email?
A. Yes, yes.

Q. Going back up on to page 3, the next email in the chain, it is an email from you, and it is about 50 minutes after being told of the Options Paper; is that right?
A. That's right, yes.

Q. You had a look at the reports for this, and by that do you mean the Project #184 reports or did you have access to the actual Options Paper?
A. I can't remember. I don't know, sorry.

Q. But whatever you looked at showed you that 10 per cent of samples that went through the auto-microcon gave interpretable results?
A. That's correct, yes.

Q. You considered that to be the significant or pertinent number in terms of the statistical analysis in the reports you read?
A. Yes.

Q. You identified the expanded comment line, which is in the forensic register; is that right?
A. I believe so, yes.

Q. And you were concerned about what that line said at that time?
A. Yes.

Q. Is that right?
A. That's right, yes.

Q. And you asked for that line to be changed to identify clearly, as you say in that sentence immediately under the quote:

> *This indicates to scientific staff that there is nothing further that can be done with this sample, which is not the case for 10% of samples.*

A. Yes.

Q. So your focus at this time was on the ability to retest?
A. That's right, yes.

Q. Or rework, I should say?
A. Yes.

Q. Can we move up, thank you, operator, to the next page. Mr Howes replied about six minutes later, seven minutes later, and said that he understood and would change the wording; is that right?
A. That's correct, yes.

Q. Then can we scroll up to the next email, please. This is the next morning.
A. Yes.

Q. You say, on 8 February, that you are:

> *... not necessarily opposed to stopping the auto-microcon process, but I do think that there is a risk that we are able to manage.*

A. Yes.

Q. And you say that, in your view, the validation of a DNA insufficient result should not occur until someone has had a look at the whole case; is that right?
A. Correct, yes.

THE COMMISSIONER: Q. By "the line should not be validated", do you mean that the sample should not be

signed off as DNA insufficient for processing until something has happened - so validation means that result line goes in and that's the end of that sample?
A. That's correct, the validation of that line prompts it to go over to the QPS for them to see the result, yes.

MS HEDGE: Q. Moving up to the next email, which is at the bottom of the next page, the next email in this list is an email from you to Kylie Rika?
A. Yes.

Q. Was she your line manager at that time?
A. Yes, she was.

Q. You say in this email that you understand from a conversation with Justin that the DNA insufficient process will continue as per the no DNA detected process, so there won't be a full case review before validation?
A. Correct.

Q. Did you have that conversation with Justin?
A. I believe so.

Q. Do you remember it now?
A. I don't remember it, but reading the email, I would say that I have had conversation with him.

Q. Do you remember anything about it that you can tell us - how long it went for or who said what in the conversation?
A. No, I don't remember.

Q. Now, you have passed on a case example here to Kylie, and you identify:

> *In this case the auto-microcon gave the only evidence to substantiate the claims of the complainant.*

Do you see that there?
A. Yes, that's right.

Q. Was this a case that you processed before DIFP came in?
A. Yes.

Q. But it was a case that you saw would be affected by

DIFP had it occurred after 8 February 2018?
A. That's right, yes.

Q. Do you remember what you hoped to highlight by giving that case example to Kylie?
A. I just wanted to highlight that for this particular case, had the DIFP process been implemented, then that sample that gave the pertinent result would not have been processed, and had a statement not been requested for that case, then that sample would probably never have been reworked.

Q. If we scroll to the top of the page, Kylie's response to you, she tells you that she had mentioned this type of thing in her feedback on Project #184 but had not had a response, and it seems the executive decision had been made?
A. Yes.

Q. Did Kylie or Justin come back to you any further in relation to the issues you had raised in these emails?
A. No.

Q. Was your mind set at ease by your conversation with Justin, or did you continue to harbour concerns about the Options Paper and DIFP?
A. I continued to have concerns.

THE COMMISSIONER: Q. Sorry, what was that?
A. I continued to have concerns.

MS HEDGE: Q. What concerns did you have back then?
A. The concern for me was that once the sample had gone through the quantification process and it sat in that DNA insufficient range, those samples would populate a list for the result line to be validated to go across to the police, but there would be no other assessment of that sample to determine whether there was anything within the case to suggest that that sample should probably be processed. So in my opinion, it was a blanket rule that said anything in this range will be reported as DNA insufficient, and there is not going to be any assessment of that, and it can be reworked later if the police request or if a reporting scientist decides to rework it.

The issue with that is that the reporting scientist would never see that sample, because it never hit a list

that a reporting scientist would look at, and so the only time that a sample like that would be seen would be if there was a statement request on the results from the rest of the case, and then a whole case assessment would completed and those samples would then come to light and then be available for review. But if you have a case that has a DNA insufficient sample in it and the rest of the case gives nothing probative, then the police are unlikely to request a statement, and so that sample then disappears and nobody would ever know that there was a sample there that could potentially have given us profile.

THE COMMISSIONER: Q. So, just so I understand it, one of the serious potential consequences is that every sample that police submit is reported as DNA insufficient, so they get that result and so they are getting no help from FSS in terms of evidence to incriminate somebody, and if they otherwise have a very weak case, then they may not twig to the fact that maybe they can get those samples actually worked?
A. That's right.

Q. With the consequence that they don't bother getting the samples tested, and you as a reporting scientist never see those samples with a view to assessing whether they, for reasons that you can see in context, are worth processing?
A. That's right.

Q. And so the case is dropped?
A. Correct.

Q. Although the samples, or one of them, might give rise to a piece of evidence that can let the case go forward?
A. Correct, yes.

MS HEDGE: Q. Can I ask you, you understand what information the police have to make a decision as to rework?
A. My understanding is that the information that they have was in the expanded comment that was shown in the email.

Q. But we should say, you understand that Justin Howes did make a change to that expanded comment after your suggestion?
A. I don't know, because I never went back and checked.

Q. So you weren't advised of anything?
A. I don't believe so, no.

Q. You understand that the police get given an expanded comment, whether it be in that form or some other form?
A. That's right, yes.

Q. Do you think a police officer, as opposed to a reporting scientist, is in a better position to make a decision as to rework in these cases you are talking about where a reporting scientist might never see the result?
A. No, I don't think so, because there are many factors that a reporting scientist would bear in mind when considering whether one of these samples could be potentially reworked, and that would include the quant value itself, so whereabouts it sits in that range, but also whether any previous body fluid testing had been carried out and what the results of that were. So, for example, it may be a bloodstain, it could be a semen stain, and just being highlighted to the fact that the sample possibly has blood or semen on it, regardless of the quant value, would potentially prompt you to rework a sample, but the police don't have that information.

Q. Now, did you take your concerns any further than Ms Rika and Mr Howes?
A. I did, yes. I took my concerns to Andria Wyman-Clarke, who was the general manager of HR in HSQ at the time.

Q. In 2018?
A. In 2018, yes. And I also took my concerns to John Doherty, who was the executive director. I'm not sure when that would have been. He wasn't in that position in 2018. It probably would have been about, maybe, 2020-ish --

Q. I'm sorry, please finish.
A. And I think I may have also raised a concern with Lara Keller as well.

Q. Going back to 2018 with Andria Wyman-Clarke, was there an outcome of that, of the Options Paper?
A. I didn't see an outcome.

Q. What about with John Doherty or Lara Keller, your

raising the issues with them - did you see that have any impact on how the lab was running?
A. No.

Q. So immediately following the Options Paper, in that time perhaps 2018 to early 2021, was the lab reworking many DIFP samples?
A. To be honest, I'm not sure. I don't know.

Q. Do you remember reporting on samples that had been reworked after an initial DIFP result?
A. I believe I would have done, but I can't recall.

Q. What about from November 2021 to now, or to 6 June this year, did you see a lot of DIFP samples in that time?
A. I did, yes, because it seemed that the QPS were requesting reworks of a lot of those samples, because the older samples in a work list sort on date received, they come to the top of the list, so they are actually one of the first samples that need to be looked at, and so I've seen maybe 30 or 40 of those since November.

Q. When you say the "work list", this is the work list in the forensic register that sets out what reporting scientists should do by way of interpretation and review?
A. Yes, yes.

Q. So when you go to work in the morning, do you look at that list?
A. Yes. It's a list of all of the samples that have been through the profiling process and are ready to be interpreted.

Q. And you saw some that were old, you say?
A. Yes, yes.

Q. They were ones that the QPS had requested a rework on that were old?
A. Yes, that's right.

Q. Did you contribute some of those to the spreadsheet that Kylie Rika was keeping of DIFP samples that resulted in a useable profile?
A. Yes, I did, yes.

Q. In those 30 or 40 I think you said you have seen since November, did you see some of them produce useable

profiles?
A. Yes. Yes, I think probably most of them, if not all of them, did, yes.

Q. Did you see some of them that were highly significant in the case that they were in?
A. Yes. A lot of them would have been in internal swabs.

Q. So did that change your level of concern about the DIFP threshold?
A. Yes.

Q. And how?
A. Because there is now a large number of samples that I have personally seen that have previously been reported as DNA insufficient, that I have now seen have given interpretable DNA profiles, whereas previously, because they were going on to the list and I potentially wasn't reworking many of them, or whatever, I wasn't really seeing them, but because these were obvious because they were coming to the list and they were sitting on the top of the list, you could see them, and the ones that I looked at, the majority of them were interpretable, so, yes, that's a concern.

Q. What did that make you think should be done about the DIFP threshold?
A. That it needed to be removed.

Q. Did you raise that with anyone in the lab between November 2021 and June 2022?
A. I don't believe I did, no.

Q. But you contributed to Kylie Rika's spreadsheet?
A. Yes, I did, yes.

Q. Did you understand what that spreadsheet was for?
A. The spreadsheet was collecting examples of samples in that range that had provided interpretable DNA profiles, with the view to presenting that to management to try and get a reassessment of the thresholds.

Q. When I asked you a moment ago, "Did you raise that with anyone?", did you take that question as meaning did you raise that with management?
A. Whether the threshold should be removed?

Q. That's right. What I'm asking now is, did you raise it with your colleagues, people at the same level as you?
A. Oh, yes, yes. Absolutely, yes, yes.

Q. I thought you might have taken my previous question as, "Did you raise it above you?", is that right --
A. Yes.

Q. -- when you said, "No, I didn't raise it with anyone"?
A. Yes, yes. Sorry, yes, no, I did raise it with my colleagues, yes.

Q. That's the other reporting scientists?
A. That's right, yes.

Q. Was this a topic of much conversation?
A. Absolutely, because people were seeing the same thing that I was, yes.

Q. There are 14 reporting scientists; is that right?
A. More. Maybe about 18-ish.

Q. Let's say 15 to 20 reporting scientists?
A. Yes.

Q. Who was involved in these conversations - everyone or just a few people?
A. At least half. I would say at least half, yes.

Q. You are in Sharon Johnstone's team; is that right?
A. That's right, yes.

Q. Were these conversations in Sharon Johnstone's team, or were there people from both of the reporting teams?
A. People from both of the teams.

Q. Where did these conversations where the reporting scientists were discussing this and expressing concerns - was that where your desks are in the lab?
A. Yes.

Q. Reporting scientists sit in an open-plan desk office setting; is that right?
A. That's right, yes.

Q. And outside - at one end of the analytical lab?
A. Yes.

Q. So conversations had there can be heard by anyone who happens to be in the area?
A. Yes.

Q. You have, and you have set out in your statement, significant involvement or expertise in STRmix; is that right?
A. That's right, yes.

Q. That's the software that assists in producing likelihood ratios for profile interpretation; is that right?
A. That's right, yes.

Q. You were involved in the verification of STRmix version 2.7 after the 3500xL Genetic Analyzer was implemented in 2021; is that right?
A. It was before the implementation, because we had to do the verification before we implemented.

Q. So was there a validation of the 3500 first?
A. There have been a few projects opened to validate the 3500 and there has been various work performed, but the work that I performed in 2021, I think, was the final work that was done before we actually implemented.

Q. So that verification of STRmix version 2.7 was to make compatible STRmix and the 3500 working together to produce profiles for interpretation?
A. Yes.

Q. And likelihood ratios?
A. Yes.

Q. Were you involved in the validation of the 3500 or those projects you're speaking about?
A. On and off for many years, yes.

Q. That validation was not easy; is that fair?
A. No; that's correct.

Q. What was the main problem that struck the 3500 validation?
A. The main issue with the 3500 is because the peak heights are so large, it produces what we call pull-up peaks. So the dye from one, what we call a lane - so there

are four different dye lanes for a PP21 profile. So if in the blue dye lane we have a really big peak (audio dropout) in the yellow dye lane, now, that peak in the yellow dye lane isn't actually DNA; it is an artefact that's created by the peak in the blue dye being so big, and so you get this peak that isn't DNA, but because it is so large, it can interfere with the interpretation of the DNA profile.

Throughout the validations of the 3500, those pull-up peaks were actually quite significant, and it made it difficult to interpret the DNA profiles, and that resulted in the 3500 validation kind of being on and off over a number of years as various things were changed and investigated.

Q. The work you did with version 2.7 of STRmix and the 3500, did that raise greater concerns about the DIFP threshold?
A. It did, yes, because the 3500 produces peak heights - I think they estimate it's about four times the height of the peaks from the previous instrument called the 3130. So by definition, then, you know that the 35 00 is going to produce larger peak heights, which then results in being able to detect smaller amounts of DNA, because with the older instruments, the peaks would be so small that you couldn't detect them. Then with the new 3500, those peaks are bigger and so they come above the baseline and they can now be detected. So my opinion was that when the 3500 was to be implemented, we should have reassessed the DNA insufficient threshold.

Q. Can we return to your first statement, [WIT.0004.1193.0001_R], at page 5, and zoom in on paragraph 26, please. You recall here in paragraph 26 a conversation you had with Justin after doing that work that you just described?
A. I think it was actually during the work, while the work was being done.

Q. And you suggested to him that maybe you should be reassessing the DIFP threshold --
A. Yes.

Q. -- for that reason you have just outlined?
A. Yes.

Q. Is his response there?

A. Yes. His response to me was that the capillary electrophoresis instrument itself doesn't affect the sensitivity of an amplification kit. So the actual kit itself is what affects the sensitivity, and not the CE instrument, and therefore, in his opinion, the implementation of the 3500 didn't warrant a reassessment of the thresholds, but he did say to me that when we implement VeriFiler Plus, which is a new amplification kit, that would be the point in time that we would reassess the thresholds.

Q. What did you think of that? Did that explanation satisfy you?
A. No, it didn't.

Q. Why is that?
A. Because having looked at the profiles myself that we generated during the validation of STRmix, I could see that it was more sensitive. But I can only provide the information. I'm not a decision-maker.

Q. Now, VeriFiler Plus - you were involved in that validation also?
A. Yes.

Q. And that was also not an easy validation?
A. Correct.

Q. VeriFiler Plus is a potential replacement for PP21; is that right?
A. I believe so, yes.

Q. You were doing the validation. Is that the purpose of it, to replace PP21?
A. I think - I think that the reasoning behind the validation of VeriFiler Plus was so that we could have like a stand-by kit as a business continuity plan, so that if anything happened where we couldn't get PP21 kits, we would at least be able to use VeriFiler. I have a feeling - I don't know, because I'm not on the decision-making group, but I have a feeling that the idea is that VeriFiler would be used in preference to PP21, and then PP21 would be used as the fall-back for business continuity.

Q. So the reason you said "maybe" was related to the word "replacement"?
A. Yes. Yes, sorry, yes.

Q. It does the same job as PP21?
A. Yes.

Q. I understand. How long has the laboratory been trying to validate VeriFiler Plus?
A. I believe since about 2019.

Q. And has that succeeded?
A. No.

Q. So it's not been validated?
A. Not yet. It's still in progress.

Q. From Mr Howes' suggestion of when the DIFP threshold would be re-looked at, it wouldn't yet be re-looked at, even up to today?
A. No, correct.

Q. Can I ask you about no DNA. Do you have similar concerns about the no DNA detected threshold as you do about the DIFP, or had about the DIFP threshold?
A. Yes, I do.

Q. Why is that, can you explain that to us?
A. I'm not sure that I've submitted a no DNA detected sample for rework, but I have seen no DNA detected samples that have tested positive for sperm, so by default there should be some DNA in the sample.

If you've only got a small number of sperm, you would only expect a small amount of DNA in the sample. But for me, if sperm is detected in a sample, we should be profiling it, because we may be able to get something. We've seen that there is physically something there. And so to write it off I don't think is necessarily the right thing to do.

Q. Does that concern only relate to samples in which sperm is seen in microscopy - is that where the sperm is seen?
A. The sperm would be seen in microscopy, yes, but there could be samples that have tested positive for blood, for example. We know that the quant process is inherently variable, and I think it may be quoted that there is about a 30 per cent variability. So if you submit a sample for quantification and it gives you a quant of 0.00099, falls

below the no DNA detected threshold, but next time I quant it, it might give me a quant value of 0.0013, so now it is above the no DNA detected threshold. And so bearing that in mind as well, if you have a sample where you believe that there's going to be DNA present, particularly if it's bloodstained or you have seen semen, sperm, and you have got a low quant value, there could also be some variability in that quant value, and therefore we should be profiling it.

Q. Taking that all into account, what is your view about whether quant values should be used as a threshold in the laboratory at all?
A. No, because of the - because we know that the quant is only an estimation and that it has an inherent variability in it, to use it as a hard cut-off I think is probably not the best thing to be doing.

Q. Are you open to a soft threshold - that is, one which sets a threshold and then there is some discretion - or are you suggesting there should be no threshold?
A. I'm happy with a threshold for triage, provided there is a further triage process as opposed to a - so, yes, I would be happy with a soft threshold, provided that threshold could be backed up, but there are also other things in place so that the samples that should be profiled are profiled.

Q. Thinking back to your time in the United Kingdom lab and the lab that you are working in now, what's the level of discretion and ability to decide what happens to a sample, by comparison?
A. When I worked in the UK, a case would be allocated to me and I would have full carriage of that case to make all of the decisions in relation to that case. I mean, bearing in mind this goes back to 2006, we didn't have any thresholds. Everything was profiled, and then it was up to me to determine whether it was worth doing further work on that sample, whether we would go back and resample items, that kind of thing, because the whole case was mine for me to make the decision on.

THE COMMISSIONER: Q. Prior to which date?
A. Well, I left the Forensic Science Service in 2006.

MS HEDGE: That was in the United Kingdom, Commissioner.

THE COMMISSIONER: Yes.

MS HEDGE: Q. What do you see as the benefits of that approach comparatively to the work list approach?
A. The benefit of that approach is because you have just a complete, holistic overview of the case. So I would receive a case. In there would be an amount of information about the case. The first thing I would do would be to call the investigating officer and say, "Tell me the details about this case. What's happened? What kind of things are we looking for?", but also, "Do you have a suspect and what's his version of events?", so that when I'm looking at the evidence, I'm actually bearing in mind that there may be evidence to support his proposition, the suspect's proposition, as opposed to the victim's proposition. So all of that information I had in mind while I was doing the examination of the items. So I wasn't just looking for DNA or some information that would prove the offence; I was also looking for information that might prove that the offence didn't happen, you know. So just having that whole overarching, holistic view just enables you to be able to do the best thing for that case.

Q. Can I ask you about reporting DIFP in witness statements. You have reported results in statements as DNA insufficient for further processing since 2018?
A. I don't know if I have done it all the way back to 2018. The email that Justin sent with the wording that says "low levels of DNA were detected in this sample" - I can't remember exactly what it says - I recall that I was using that wording when we first implemented, because I didn't know what wording to use. That was his suggestion, so I was using that wording. But I know that at some point in time, I changed that to the DNA insufficient. The only thing that I can think of is that it went into a SOP and so I started to use it because it was in a SOP, whereas it may not have been right at the beginning. But I'm not sure.

Q. But you don't remember why you changed?
A. No.

Q. Have you looked up the SOP recently?
A. Yes.

Q. Is what you were writing consistent with what was in the SOP pre 6 June 2022?

A. Yes.

Q. Are you permitted, in your work, to write wording that's not approved by management or in a standard operating procedure?
A. Generally speaking, I believe that you are allowed to deviate from a SOP in certain circumstances, provided it's something that is appropriate for whatever it is that you are doing and you have the appropriate permissions and you make the appropriate notes. Deviation from a SOP is not something that you do on a general basis, because then there is something wrong with the SOP. So if I were to find a sample that had something unusual about it and I just wanted to do something slightly different, I may be able to deviate from the SOP, provided I have justification for doing that. But I can't do that for every sample. You know, generally, for the bulk of our casework, we have to follow SOPs.

THE COMMISSIONER: Q. You can adopt an idiosyncratic approach for something if you can justify it, it makes sense, but you can't establish your own standard operating procedure?
A. That's right, yes.

MS HEDGE: Q. What would happen if you did start reporting DIFP as some other phraseology that you chose?
A. I suspect that, for want of a better word, I would get into trouble, somebody would address that with me and tell me that it's against the SOP and I shouldn't be doing it.

Q. Can I just take you to 6 June 2022. That was the date that the DIFP threshold was removed. Can I have on the screen [WIT.0004.1200.0001_R], and that's exhibit EC-07 to the first statement. Do you see at the bottom of that page an email from Sharon Johnstone to you, among others?
A. Yes.

Q. Forwarding on instructions about what had changed on 6 June?
A. Yes.

Q. Can we go to the top of the page, please, operator. You responded to Sharon, Kylie and Justin. So that's the two reporting team senior scientists and the team leader?
A. Yes.

Q. You stated that:

Before the DIFP process was implemented, all PP21 samples in [that] quant range ... were sent for an automatic microcon (as per QIS 17117v19).

That's a SOP, isn't it?
A. Yes.

Q. A case management SOP?
A. Yes.

Q. And so you asked why you were sending these samples straight for amp rather than auto-microcon?
A. Yes.

Q. So your mind was firmly focused on the pre-2018 process at that time?
A. Yes.

Q. That version of the SOP that you identify there on 7 June, that ended up being the one that the director-general directed you to use on 19 August?
A. Oh, possibly. I do know that that was the SOP that was in use at the time, because I looked it up.

Q. On this day?
A. Yes.

Q. And so did you have the understanding on this day that the aim of the decision-makers on 6 June was to revert to a pre-2018 process?
A. No, because the information that was given said that they would go straight for amplification without an auto-microcon and so the decision had been made that we wouldn't be going to the automatic microcon, and my question was, well, why would we do that?

Q. So why did you think what matters is what happened pre-2018? Why was that at the forefront of your mind?
A. Because if you have a sample that has got such a low quant value, for me personally, I would be wanting to concentrate that before I amplify it, because if I take 15 microlitres out of that sample to progress it straight to amplification, I'm likely to get a low-level profile and I'm likely to want to concentrate it to improve the

profile, but now I've lost 15 microlitres of my sample.

Q. So you were thinking at this time that the pre-2018 process was a better one than the one that was given to you on 6 June?
A. Correct.

Q. And that's the reason you raised it?
A. Yes.

Q. Because you considered it a better process?
A. Yes.

Q. Did you discuss this aspect of your concern with your colleagues, that removing microcon was a problem for the reason you have just identified?
A. Yes.

Q. And what about with Sharon, Kylie or Justin, did you discuss it with them?
A. I had a fleeting exchange of words with Sharon. So I had sent the email, and I think I was walking past her desk and she stopped me and just said something along the lines of, "I know what you - I know what you're trying to say, but this is what Cathie has decided."

Q. And what about Kylie or Justin?
A. I didn't get a response from Kylie or Justin - though, to be fair, sorry, to add to that, to be fair, I would have discussed it - officially as part of the email, I didn't get a response from Kylie and Justin, but I would have also discussed it with Kylie. But she's not my line manager, which would be why Sharon spoke to me.

Q. I understand. So you have a good relationship with Kylie?
A. Yes.

Q. So you would have just spoken to her at some point when you were talking?
A. Yes, that's right.

Q. What about Justin?
A. No.

Q. Didn't speak to him?
A. No.

Q. He didn't reply to your email?
A. No.

Q. Can I move to another topic that you deal with in your second statement, [WIT.0004.1224.0001], and if we zoom in on paragraph 2 there, this is under the heading "Consistency between scientists" and this deals with consistency between reporting scientists; is that right?
A. That's right, yes.

Q. You identify in your statement three areas in which reporting scientists disagree?
A. Yes.

Q. They are the stutter threshold?
A. Yes.

Q. Combined stutter, and removing loci?
A. Yes.

Q. We're not going to go into all of the technical details of those, but can you just briefly tell us what those three issues are and then we will deal with how the inconsistency has been dealt with?
A. With respect to the stutter, stutter is effectively an artefact of the profiling process. We know that it occurs, we expect it to occur, and we expect it to occur at a certain level. So we can generate thresholds that we can use to say, yes, this peak is likely to be stutter or is more likely to be allelic.

Q. Allelic meaning actual DNA?
A. Actual DNA, yes.

Q. Stutter meaning you should ignore it?
A. Yes.

Q. Yes, keep going.
A. The way that reporting scientists assess stutter differs between scientists, and that assessment, depending upon how a scientist chooses to assess that peak as being stutter or allelic, can then affect the determination of how many contributors there are to a profile, which can then affect the downstream interpretation of that and potentially the likelihood ratio.

Further to that, you can have a stutter peak from a particular allele, a particular piece of DNA, that falls in the same position as a stutter peak to another piece of DNA, so there are two stutter peaks together in one position, which we would term combined stutter, and reporting scientists assess the presence or not of combined stutter differently, which again can affect the determination of the number of contributors.

Q. When you say "differently", just pausing there for a moment, is it the case that some reporting scientists don't believe in the concept of combined stutter?
A. That's right, yes.

Q. And some do believe in the concept of combined stutter?
A. Correct.

Q. Are there journal articles or scholarship on this topic?
A. There is a journal article that relates to how STRmix works and the models that it uses within its interpretation that describes how STRmix assesses any peak as being additive, so that can be an allele plus stutter, stutter plus stutter, you know, so basically the concept of allelic peaks is additive if you've got more than one thing contributing to the height of it. That's also backed up in the STRmix users manual.

Q. That journal article is in paragraph 12 of your statement?
A. Yes.

Q. We don't need to go into it any further than that. What about the removing of loci, what's that issue?
A. That issue relates to a pull-up again, so what we talked about before. If pull-up occurs in a stutter position, so you have a peak that's potentially stutter, but it's affected by a pull-up peak, so it makes that stutter peak bigger, it can then push it over the stutter threshold to then make it look like it could potentially be DNA rather than stutter, but it's not; it's just been affected by the peaks in other dye lanes. Now, a stutter peak may be affected by pull-up but still sit below the stutter threshold, or it may be affected by pull-up and sit slightly above the stutter threshold.

Q. Can a reporting scientist, in their discretion, just remove a peak from the analysis?
A. There are a number of different ways that it can be approached. The modelling of STRmix is actually quite robust and a lot of the time can probably handle that type of peak. But I am aware that there are scientists that, in that instance, would actually remove the locus from the STRmix interpretation, which means that STRmix doesn't have the information from that locus to be able to model the rest of the profile. My understanding is that that removal of loci can occur at maybe two or three loci within a profile, which means that a lot of information has been removed from that STRmix analysis that potentially shouldn't be being removed.

Q. In PP21, there are 21 loci?
A. Yes.

Q. So if you are removing two or three, you are potentially removing more than 10 per cent of the loci available?
A. Yes.

Q. Do the reporting scientists do that in GeneMapper? At what stage of the process, I should ask?
A. They can actually do that at the profile interpretation stage. When you put a profile into STRmix, you can actually tell STRmix to ignore those loci. So you don't need to do it in GeneMapper or forensic-register or anything; you can just tell STRmix to do it.

Q. What is your approach? How many loci would you be comfortable removing from any profile?
A. I would only be removing loci from a profile under extreme circumstances. For example, STRmix is not able to analyse loci that have mutation events in them. STRmix is expecting to see two alleles at one particular area, but sometimes there may be a mutation event, which shows - which gives three alleles. So STRmix can't deal with that, because it is only expecting to see two, and so we have to remove the locus from the STRmix analysis. That is when I would be removing it.

From an issue such as pull-up in stutter position, there are other things that can be done to rectify that issue, so I wouldn't be removing loci if I had pull-up in stutter position.

THE COMMISSIONER: Q. As I understand it, STRmix uses some kinds of very complicated algorithms in order to present ultimately an electropherogram which takes away what STRmix considers is irrelevant; is that right or not?
A. It factors it in to the interpretation, so --

Q. But what I mean is, it factors it in to the interpretation, but how does it do it? For example, if STRmix considers that something is stutter and not an allele, does it make that invisible, that stutter invisible, or does it leave it there for you?
A. Yes, if STRmix has considered that that peak is only stutter, it will remove it.

Q. Yes, that's what I mean.
A. Yes.

Q. But in undertaking that process in accordance with its software, it is taking into account the whole body of the electropherogram, so what you are saying is that if you remove more than one locus from consideration by STRmix, you are corrupting the analytical process in which the software engages?
A. You could be potentially affecting the way that STRmix is modelling the profile. I probably wouldn't use the term "corrupting", because it's still going to do it, but it may not be doing it in the best way.

Q. You are influencing the interpretation or the output of STRmix in a way that does not aid accuracy?
A. Potentially.

Q. You may be influencing in a way that does not aid accuracy --
A. Correct.

Q. -- because the software assumes that there will be the number of loci that it is looking for?
A. Yes.

MS HEDGE: Q. Returning, then, to paragraph 2 here, those are the three topics about which - are they the only topics where you have seen disagreements that have turned into heated arguments or are those just three examples of topics?
A. They are just three examples of topics. Topics do

come up regularly.

Q. Do they often escalate into heated arguments between reporting scientists?
A. Not often, but I have seen it happen.

Q. This paragraph you state here, where there are heated discussions, with individual scientists dominating meetings, causing others to not participate even if they don't agree, and reluctance to engage, is that a recent experience of yours or how far back in time - well, is that current, is that the current situation?
A. It is the current situation.

Q. And now how far back does that go?
A. It would be years, because we haven't had a reporting team meeting to sit and discuss these things for years.

Q. Can you say how many years?
A. We used to have what we called FRIT team meetings, so we've got everybody.

Q. Forensic reporting and intelligence team?
A. Yes. I don't think we've had a FRIT team meeting for maybe three or four years. We have more recently had what were termed profile interpretation meetings. We've probably only had a couple of those.

Q. A couple of those in what time period?
A. Probably last year.

Q. Two last year?
A. Yes.

Q. None this year?
A. There may have been - within the last year, there would have been two.

Q. I see. My apologies.
A. Yes.

Q. Justin Howes is the team leader of that - of FRIT?
A. Yes.

Q. Did he run those meetings when they happened three or four years ago?
A. Yes.

Q. He was the team leader then?
A. Yes.

Q. He ran them for a number of years before that?
A. Yes.

Q. Have you raised with him why he doesn't have those meetings anymore?
A. I'm not sure. Possibly not.

Q. Have you raised with him your belief that those meetings would assist with these problems?
A. Not with him, but I believe I've raised it with Kylie and Sharon, which is why we've had a couple of those profile interpretation meetings, to try and fill that gap.

Q. Those three issues that you have identified - stutter threshold, combined stutter and removing loci - have they been resolved by these meetings that you have had in the last year?
A. No.

THE COMMISSIONER: Q. Ms Caunt, one can have differences of opinion, one has to accept, because you are engaging in something in which there is judgment involved?
A. Yes.

Q. But I'd like to understand a little better the removal of loci issue. You have said that it's inadvisable to remove more than one locus --
A. Yes.

Q. -- for reasons you have explained. If you are right about that, then the consequence of people removing two or three loci is that it affects the reliability of the STRmix analysis?
A. It could do, yes.

Q. It might do, yes. And so if you are right, then there is a risk to the reliability of the STRmix analysis?
A. Yes.

Q. If you are wrong, then there is no problem?
A. Correct.

Q. So there are scientists who are of the view that it

doesn't matter, but if you are right, then that's really unsatisfactory from a scientific point of view; you ought not be doing that?
A. Correct.

Q. So this isn't an issue where reasonable minds can differ and keep moving as they choose; this is an issue that has to be determined --
A. Yes.

Q. -- conclusively. Your notion is either right or it is wrong, but we have to determine it one way or another; otherwise, we can't have confidence in what's happening?
A. Correct.

THE COMMISSIONER: Thank you.

MS HEDGE: Q. You prepared a workflow for how to deal with pull-up affected stutter in relation to that issue that the Commissioner was just asking about - removing loci?
A. Yes.

Q. And you did that in October 2021?
A. Yes.

Q. And sent it to Allison Lloyd, who was then acting team leader of FRIT?
A. Yes.

Q. You have asked a number of times, you say in paragraphs 22 and 23, what is happening with that workflow, and you have not been advised of any action being taken; is that right?
A. Correct.

Q. Now, in paragraph 25, which is on page 4 of the statement, you say that the removal of loci is not recorded in statements provided to the QPS but only in the case file; is that right?
A. That's correct.

Q. And so unless the prosecution or defence request a case file, those persons would not be aware of loci being removed?
A. Correct.

Q. Does the inconsistency of approach between reporting scientists also increase the likelihood of an incorrect result?
A. Yes.

Q. That's because in combination with the work list, people are looking over each other's results; is that right?
A. Yes, yes.

Q. And if you have a different number of contributors, then there will be a different result, naturally; is that right?
A. Yes, that's right.

Q. If you change the number of contributors, that's automatically an incorrect?
A. Yes, it would be, yes.

Q. Have you seen that, that the removing of loci - have you seen that cause an incorrect, or is that just a risk you're aware of?
A. No, I have seen it cause an incorrect.

Q. In paragraph 26, you identify that in May of this year, late May, Ms Rika sent an email to Mr Howes about a meeting that she and Sharon Johnstone had about interpretation and inconsistency and so on?
A. Yes.

Q. And that related to some of the issues that you have raised?
A. Yes. Angela and Cassandra and I had a meeting, because they are STRmix trainers, that's what they are termed, and so together, because we have a lot of troubleshooting, between us we do a lot of STRmix troubleshooting, that kind of thing, they both said to me, "We're seeing these things. We should perhaps sit down and talk about them and work out what the best approach is." So we had a meeting and talked about inconsistencies in interpretations, what kind of things were happening and what kind of things we could do to address those inconsistencies, and we drafted an email and sent it to, I believe, Kylie, Sharon and Justin, and said, "Look, we've raised all of these. These are our potential solutions. These are the things that we're thinking about. Can we have some guidance on who the decision-maker is for these?"

And then I believe that Kylie and Sharon had a meeting about that and put those minutes to Justin for some kind of agreement, I think.

Q. Can we just look at the list of things. [WIT.0004.1229.0001 at 0005]. It's at the bottom of this email, this is the email of 31 May, at the bottom of this page.
A. Yes.

Q. If we can just turn on to the next page, operator, that might assist with not having to redact. Can we zoom out to look at that whole page which ends in 0006. This is small, but do you see each of these issues? Do you see there, "2. Saturation point", "3. -2 repeat stutter", "4. 4p mixtures", and so on? We're not going to go through all of these. Can we look at page 7 also. These are all the individual issues that have been raised and they are highly technical?
A. Yes.

Q. Under each one, you have suggested something to push it forward --
A. Yes.

Q. -- towards some sort of agreement, is that right --
A. Yes.

Q. -- or at least understanding of level of disagreement, perhaps?
A. Yes.

Q. Then if we can come back to page 1 of this exhibit, please, operator, there is a chain of emails there. This is the most recent. Mr Howes wrote to Ms Rika and Ms Johnston in this chain of emails that attached that - that was the start that we just looked at; this is the end - and he suggests that perhaps there might be some discussion on SS. What's SS - single source?
A. Single source.

Q. And that maybe it would be good for staff to continue discussing as a group?
A. Yes.

Q. Do you feel this is sufficient urgency for the problems you're raising?

A. No, and, in my opinion, discussion as a group is not likely to resolve the issues, because we already have disagreements, which is why the issues were brought up, and so what we need is somebody to make a decision, or at least find the information - or at least seek advice to assist in making a decision.

Q. What form do you see that taking in your ideal world? Would there be a project, a research project, data collection, an experiment - what is required?
A. Some of it is as simple as somebody just making a decision and saying, "This is the way that we're going to do it." Some of it would be seeking external advice and seeing how other people do it and if there is any risk to the way that we are doing it. I don't think that any of them necessarily involve a project; it's more about decision-making, and that's why I highlighted the issues and moved them up, because I'm not in a position to make a decision, but a decision needs making about them.

Q. Do you have a decision on any of those issues?
A. No.

Q. Those three issues?
A. No.

Q. Can we go back to the statement, please, operator, and to page 4. Can we just zoom in on paragraphs 27, 28 and 29. In response to an email about combined stutter and the workflow, Mr Howes said that he had asked BSAG their opinions in dealing with stutter affected by pull-up?
A. Yes.

Q. And that's the Biology Special Advisory Group of ANZFSS; is that right?
A. ANZPAA.

Q. ANZPAA.
A. Yes.

Q. He didn't tell you that he was seeking that information?
A. No.

Q. He told you where that spreadsheet was, so you could look at it?
A. I think he forwarded it to Kylie.

Q. And you looked at it and saw that he had that information in 2021 and hadn't told you?
A. Correct.

Q. In your opinion, you say in paragraph 29, your reading of it was that every interstate opinion had the same position as you?
A. Yes.

Q. After that conversation where Mr Howes provided the BSAG opinions or the BSAG survey, did you have any further conversation with him about what would be done next?
A. Well, there wasn't a conversation. I think he had forwarded it in an email to Kylie, so that's where I got it from. So I haven't had a conversation with him about it.

Q. Can I ask you about one small topic within the topic of validations. You have identified in your statement a number of validations and your concerns about them?
A. Yes.

Q. We won't go through all of them, but can we talk briefly about the ProFlex?
A. Yes.

Q. This is on page 6 of the statement, please, operator. Now, the ProFlex is the thermocycler?
A. Yes.

Q. In paragraph 41 at the bottom of that page, please, operator, you say that when they were starting out the verification of the ProFlex, Ms Rika asked you for feedback on the experimental design?
A. Yes.

Q. And you said that you should complete a Model Maker analysis, as the ProFlex instruments may cause a change in peak height variability?
A. Yes.

Q. Could you just briefly, if you can, explain a Model Maker analysis?
A. In order for STRmix to model the DNA profiles produced by the lab, it needs to have some information about the variability of those DNA profiles within the lab. So of course, within our instrumentation, we're going to have an

inherent degree of variability between DNA profiles, and STRmix needs to know how variable they are, so that it can then incorporate that into its interpretation, so it knows that this variability is literally just due to lab variability and not because of something that's happening within the profile.

Model Maker is actually a module within STRmix that takes a set of known DNA profiles that are amplified at different input templates, so they're different level of profiles, low-level profiles to larger profiles, and it does an analysis of all of those profiles to work out what we term a variance, so how much variability there is within peak heights, within profiles that we determine within the lab.

The information that that gives us then allows us to put settings into STRmix, and those settings that we use are lab and instrument specific, and everybody's STRmix has those settings in them that STRmix then uses to interpret DNA profiles. So if something changes within the lab that is likely to change the variability of the peak heights, we need to rerun the Model Maker analysis so that STRmix has the information about the profiles that we're generating to enable it to interpret profiles.

THE COMMISSIONER: Q. So Model Maker is part of STRmix and is used to inform STRmix about the nature of the profiles that you tend to get in your laboratory, including, relevantly, the range within which peak heights might vary and still be genuine peak heights?
A. Yes.

Q. STRmix then takes that information and can apply it, along with other algorithms and so on, in order to make a computer judgment about what is or is not within the range of variability and is therefore to be treated as a real peak rather than as something that has to be given less weight?
A. Correct, yes.

Q. And so, in essence, STRmix is a program that can assist in analysis by taking into account probabilities that are too complicated for the human mind to calculate?
A. Yes.

Q. But in order to do that, it's got to have the data

about the kinds of profiles that you are getting and what they mean?
A. Yes.

Q. So what you are saying is that when you change an element in the total process from beginning to end in such a way that, relevantly, the variability of the height of peaks is now going to be different, then you have to tell STRmix you have done that?
A. Yes.

THE COMMISSIONER: I understand.

MS HEDGE: Q. Ms Rika asked you to seek advice from STRmix support; is that right?
A. Yes.

Q. And they said the same thing as you, that there should be a Model Maker analysis done as part of the validation?
A. Yes.

Q. At paragraph 46, you say that there was a meeting where four people - Angela Adamson, yourself, Allan McNevin and Cassandra James - met?
A. Yes.

Q. And that Allan McNevin was at that time a member of the management team, and he gave you the perception that you had to not do that for the management team to accept the validation; is that right?
A. Yes, that's right.

Q. And then that happened - that is, that the ProFlex validation was done without the Model Maker analysis?
A. Correct.

Q. And then the Model Maker analysis was done later?
A. Yes.

Q. And you now understand that's one of Dr Duncan Taylor's criticisms of the ProFlex validation?
A. Yes.

Q. You have read Dr Taylor's report?
A. Yes.

Q. Do you understand that he says for three reasons that

it is not necessary to cease processing on the ProFlex machines, despite the problems with validation?
A. Yes.

Q. You have a concern about one of his reasons; is that right?
A. Yes, that's right.

Q. Can I have this email put on the screen, [WIT.004.01245.0001]. It is in an odd format, so it's throwing me off. Is that a true number? There we are. This is an email that you sent to me yesterday to identify your concern?
A. Yes.

Q. And that is that - well, perhaps you should explain briefly what your concern is about what Dr Taylor said?
A. He said in one of his recommendations that some additional experimental laboratory work should be carried out, but he further says that he doesn't believe a suspension of the laboratory functions are required whilst this additional validation work is being carried out and that his opinion was based on three factors.

The first of those factors he said was that:

The current STRmix settings appear to be based on a combination of data from all ProFlex Instrument [sic] and so will be somewhat representative of their grouped average performance.

So that, to me, says that he has considered that the Model Maker work that we did on the ProFlex instruments, and the fact that those settings are being used, is one of the reasons why he is happy for us to continue using the ProFlex machines.

But we haven't actually implemented those ProFlex Model Maker settings. We're still using the settings from the instruments before the ProFlex machines. We're still using the old Model Maker. So my concern was that he didn't understand that we hadn't actually - although we calculated the settings, we haven't actually implemented them, and therefore does that then change his opinion that we can continue using the ProFlexes until we do the additional work?

Q. And what is the reason that you haven't implemented the settings that you found in that report, 199?
A. We completed the report, the analysis and the report, and we came to implementation stage and we found that we had made an error in the running of Model Maker, and so we couldn't use those settings, and we knew that we needed to go back and redo them.

But we hit a couple of issues, in that Justin requested that we raise an OQI for the fact that we made a mistake with the Model Maker settings. He's also suggested that we need to have a reviewer of the data.

I have questioned both of those, firstly the necessity for an OQI but, secondly, who is going to review the data, because I don't believe that there is anybody in the lab with sufficient knowledge to have picked up the error that we made, and therefore who is going to be this reviewer?

So we can't move forward with the Model Maker analysis now without a suitable reviewer, but I don't know who this reviewer is likely to be. It's not up to me to assign the reviewer. Somebody else needs to assign the reviewer.

Q. No reviewer has been assigned, to your knowledge?
A. No, no.

Q. So your view is that you cannot implement the settings from 199?
A. No, not the ones that we calculated.

Q. Because there is an error in them?
A. There is an error, yes.

Q. And you haven't yet worked out new settings?
A. Correct.

Q. So as we stand today, there are no settings that you could implement reliably or justifiably or confidently?
A. No, we have no new settings. We're still using the old ones.

Q. Your concern is that Dr Taylor may not have understood that from simply being provided that report?
A. Correct.

THE COMMISSIONER: Q. When you did you pick up the error?
A. I can't remember. It was literally the day we were implementing. I think as Cassandra and Angela were importing the settings, STRmix gave some kind of error that highlighted them to the fact that there was something wrong, and then we kind of did some backtracking and found what the mistake was. I've got a feeling that may have been May.

Q. Of this year?
A. Yes.

Q. You said that there's nobody in the lab who's suitably qualified to review the work. What are the qualifications?
A. Well, the way that I looked at it was that we had missed one of the settings that we needed to apply to Model Maker. Now, in order for a reviewer to pick up that we had missed that setting, they need to know how Model Maker works and that that setting should have been applied, but there's nobody in the lab, else in the lab, that had the knowledge to have been able to pick that up without us having to tell them to check it, and that's pointless because obviously we missed it, if that makes sense. So it's not necessarily a qualification as such but an in-depth knowledge of how STRmix and Model Maker works.

Q. By "qualification", I didn't mean a degree or diploma. I meant you would be qualified if you had a good working knowledge of STRmix?
A. Yes.

Q. And the people who have a good working knowledge of STRmix are who in the lab, yourself and --
A. The people that were working on the report, so myself - this is a difficult one, so, sorry, this might be a long answer.

When STRmix was implemented back in 2012, I was trained by the developers - Dr Duncan Taylor, John Buckleton and Jo-Anne Bright. They provided me with training, and then I went back again to attend a train the trainer course with them as well. I brought that training back to the lab and appointed Rhys Parry; he was brought in to help me provide that training to everybody. We provided the training and we did the validation of STRmix and implemented it.

As time has gone on, I've been the only person that has kind of kept the carriage of the STRmix and validations and keeping in touch with Duncan to get advice and everything else. I did have somebody that was assisting me, but he left the lab. So when he left the lab, I had asked Justin to provide me with somebody else. I have had a number of people who have decided that it's not quite for them, and that's fine.

I'm currently in the process of training Angela and Cassandra in all things STRmix to assist me. And so, on that basis, there is only me, really, with the knowledge, and it was me that made the mistake.

Q. So you are the person who is most highly qualified and you are training two others?
A. Yes.

Q. But Dr Taylor is one of these people as well, as it happens?
A. He's an expert - he's the expert, yes. Sorry, I'm just --

THE COMMISSIONER: Thanks.

MS HEDGE: Q. Can we just deal with one final matter. You say in a few parts of your statement about dealing with external labs?
A. Yes.

Q. You just mentioned then that you kept in touch with Dr Taylor after being trained in STRmix. You mentioned in the ProFlex validation section at paragraph 45 that you were told by Justin Howes not to contact STRmix support, because it costs money, and that he must be asked before you contact them?
A. Yes.

Q. You also deal with contacting other labs from paragraphs 104 to 106 and you say that Justin Howes told you not to contact other laboratories generally?
A. Yes.

Q. But in respect of Duncan Taylor specifically, you were told not to contact him, because South Australia didn't want him contacted all the time by people, but Duncan has

since told you that you can contact him?
A. Yes.

Q. There are two questions here. Do you feel able to contact subject matter experts outside your lab, and, if not, how does that detrimentally affect you doing your job?
A. Well, up until I spoke to Dr Taylor at the conference in September, no, I didn't feel like I could contact anybody outside the lab. That impacts my ability to do my job, because when troubleshooting issues with STRmix and potential interpretation issues - so take, for example, the dropping loci, that would be a perfect example where I would contact all of the other labs and say, "What do you do? What do you think? What are your thoughts? What's the impact going to be?", everything else, and they would contact me and say - and then I would be able to put together some kind of recommendation or whatever. But not being able to contact anybody then leaves me stuck with, "Well, this is my opinion, but I don't know if my opinion is backed up by anybody else." You know, I have no way of finding out, and therefore we don't progress.

Q. Do you think that affects the quality of the science implemented at the Queensland laboratory?
A. Definitely, yes.

Q. Has that changed over time, or since you joined the laboratory has it always had that sort of separation?
A. It's changed over time. When I first started the training and implementation of STRmix, I had contact with - we had a statistics working group that worked underneath BSAG, which was the biology advisory group. As a group, so there were representatives from all jurisdictions across Australia, we had John Buckleton helping us out; Duncan was part of the group as well. So I had contacts in every single lab, and they were all attempting to do the same thing. We were all learning about STRmix and implementing and everything else. So I had this whole group of people that I could contact and go, "Hey guys, I'm thinking about this. What do you think?" So I developed all of these contacts, friendships and everything else, but over time my ability and permission to contact those people has diminished.

MS HEDGE: Thank you. Can I tender that email that I had on the screen, the email from Ms Caunt about Dr Taylor's report, please.

THE COMMISSIONER: Yes. What is the date of it and from whom to whom?

MS HEDGE: 11 October 2022.

THE COMMISSIONER: Yes, from Ms Caunt to you?

MS HEDGE: Yes.

EXHIBIT #77 EMAIL FROM MS CAUNT TO MS HEDGE, DATED 11 OCTOBER 2022, BARCODED [WIT.004.01245.0001]

MS HEDGE: Thank you.

<EXAMINATION BY MR HUNTER:

MR HUNTER: Q. I act for the Queensland Police Service. Can I ask you about the process of micro-concentration. It has been a regular thing for as long as you've been at the laboratory for there to be micro-concentration to full or to 15 microlitres?
A. Yes.

Q. And there is an established procedure for doing that?
A. Yes.

Q. There always has been?
A. Yes.

Q. Has there ever been a concern raised by the police service, as far as you are aware, about the fact that micro-concentrating to full might result in exhaustion of the sample?
A. No, I've never been made aware of any concern.

MR HUNTER: Thank you, Commissioner.

<EXAMINATION BY MR DIEHM:

MR DIEHM: Q. Ms Caunt, I appear on behalf of Ms Brisotto. I have a couple of questions, if I may. In paragraph 77 of your second statement, if that can be brought up on the screen, please, page 11, you identify there raising a concern with Ms Brisotto about implementing PP21 at half volume, because of problems with interpretations?

A. Yes.

Q. If we can just scroll up, please, to paragraphs 75 and 76, you explain in paragraph 75 that you were involved with the PP21 validation?
A. Yes.

Q. Was that what is known as Project #107?
A. Yes, but if I can explain, I actually had the STRmix component of that, which I think was Project #105 maybe, but because I needed - I was also looking at interpretation, how we interpret profiles, because we needed to put that in - because we needed STRmix and interpretation to go together, and so I was working closely with the people doing the PP21 validation to ensure that I got the samples that I needed in order for me to do my part of the validation. So while I probably didn't actively do the PP21 validation itself, I was involved in sample selection and obtaining information and, you know, not really helping out, but information sharing.

Q. You made a contribution to Project #107 because of your involvement in Project #105?
A. Yes.

Q. Now, each of those projects came to be concluded in December 2012; is that right?
A. Yes, that's right.

Q. What you have spoken about in paragraph 77 are matters that bore upon Project #107?
A. Kind of a combination of the two, because I was looking at interpretation, and so from my perspective, there were issues with interpretation of the half-volume samples that were affecting - impacting on my part of the validation, but it was kind of part of both validations, if that makes sense.

Q. Now, do you recall that it was the case that when Project #107 was concluded, was signed off on in terms of the report that was produced as a result of its existence, there was in fact a process that allowed half volume as well as full volume to be used --
A. Yes.

Q. -- as part of the PP21? All right. Can I just ask if this document can be brought up on the screen,

[WIT.0016.0104.0001]. You can see up in the top right-hand corner that it conveniently has the hash for 107, Project #107, and you can see from the title of the document that that is what it is?
A. Yes.

Q. If I can ask if we can go to what should be page 64 of that document, that has recommendations there. That second recommendation, is that a recommendation that speaks about half- and full-volume samples, as you are referring to in paragraph 77 of your statement?
A. Yes, yes.

Q. If we can go, then, to the second page of the document, please, and scroll down a little further, just if we can stop there for now, we can see that the document has a date, 14 December 2012, and then it has been signed by those particular signatories --
A. Yes.

Q. -- at around about that date, 14 December, final approval by Ms Allen on 17 December. If we can scroll down further, please, it may take us on to the next page, the balance of the signatures are on the 14th, except for Mr Nurthen on 17 December as well?
A. Yes.

Q. You are one of the signatories to that document because you made the contribution you spoke of previously?
A. I'm one of the signatories on the document because I was a member of the management team at the time.

Q. I'm sorry, thank you. I appreciate the correction. Given that at the time the document was approved by you and your colleagues on the management team around 14 to 17 December, it proposed and it seems it was approved that there be use of both half and full samples, or alternatively half or full volume, for testing?
A. Yes.

Q. I've understood that correctly? The concern that you speak about in paragraph 77 of your statement must be one that came up afterwards; is that right?
A. No. Before I signed it.

Q. Before you signed it?
A. Yes.

Q. If we can go back to page 64, please, those are the recommendations, but what appears above it at the top of page 64 and then over on to page 63 - perhaps just stop there, sorry, firstly. Forgive me for asking you to read this in reverse order, taking that you will have some vague familiarity with what is being spoken about there all these years later, and if, when you are ready, Ms Caunt, you can say so, and we will go to the previous page.
A. Yes.

Q. Go to the top of the page, please, Mr Operator, thank you, and allow Ms Caunt to read the whole of the rest of the conclusion there, or as much as you feel you need to.
A. Yes.

Q. Is it the effect of it - and again if you need to look at any more of it, please say so - that there was a project set up, there were experiments undertaken, and the report that came back to the management team, and it was approved by the management team, said that whether you used half or full PCR volumes didn't matter, in effect; there were sound results produced?
A. I'm not sure that it says that there are sound results produced. In the second paragraph on this page here, where it starts, "12.5 microlitre total PCR volumes gave higher peak heights than their 25 microlitre counterparts", that was part of the problem.

Q. Ms Caunt, just so that you are not concerned about something you need not be, my questions aren't coming to challenge your contention that there was a problem. I'm just asking you about the history about how it evolved. Okay?
A. Mmm.

Q. In the very next paragraph, that paragraph concludes by saying:

> *... however the increased sensitivity does not necessarily result in more reliable information.*

A. Yes.

Q. So, in effect, it's saying, yes, there is some

difference, but the difference isn't significant at the end of the day, at least at what was being contended for at that time?
A. I don't think, in my opinion, that this paragraph represents there being a significant difference or not; this paragraph is saying that the half-volume amplification provides increased sensitivity, but it doesn't necessarily result in more reliable information. That is correct. But when it comes to the interpretation of those half-volume profiles, they were very complex and unwieldy to interpret. So that paragraph doesn't actually relate to my opinion.

Q. Can I just ask the operator to scroll just a little bit more up, so that we get the whole of the paragraph that is at the bottom of the page at the moment. Just stopping there, you will see that that last paragraph on that page says that:

> *For the range of DNA templates specified above, significant differences between [half and full] PCR volumes was not observed.*

A. And that may be the case on the tests that were - on whatever those significant differences were based on. I don't know what they were based on. But when it comes to the actual interpretation - that finding may be correct, but when it comes to the interpretation, there was a difficulty in interpreting the half-volume profiles.

Q. In any case, do you accept that as at the time when the approval was given for this report by the management team, the facts being put before the management team were that it was satisfactory to use either half- or full-volume PCR?
A. Yes, I would say that the report probably indicates that both are okay, the report itself.

Q. In that context, then, it's not particularly remarkable that the management team, including you, signed off on it?
A. Correct.

Q. Now, if I could ask the witness to be taken to this document, please. It is [FSS.0001.0002.3879]. You might recognise the document even at a glance, Ms Caunt, as being

a minor change document?
A. Yes.

Q. If I can draw your attention, please, then to the page - yes, we will need to scroll down to the entry that is for 4 February 2013. If that can be highlighted, please, or uplifted, as the case may be. Now, can you see from that, Ms Caunt, that what there is then is an entry that has been made by Mr Howes in the minor change registry that says that half-volume amp profiling is to cease?
A. Yes.

Q. And he goes on to give other instructions and says, "Full-volume reactions to be assessed"?
A. Yes.

Q. This is a reference in a minor change registry to a change of what had been recommended in the document signed off back in December 2012, to say that now you are not to do the half-volume PCRs; you are only to do full volume?
A. Yes.

Q. If we can then please move to 22 February 2013, an entry on that date, and again perhaps a reinforcement with a further entry to say:

Amplifications at full-vol PP21 started for routine analysis.

A. Yes.

Q. So that was now the norm, was full volume?
A. Yes.

Q. That change, it would seem, reflected the very concern that you have identified as having formed yourself about not testing at half-volume PCR?
A. Yes.

Q. So given the history that appears from those documents, in terms of what you have said in paragraph 77 of your statement, I suggest to you that what must have been the course was that a report was prepared for the management committee's consideration that said that you could use half-volume or full-volume PCR, either of those was satisfactory?

A. Yes.

Q. The management committee approved of that?
A. Yes.

Q. Something was identified soon thereafter to suggest that that shouldn't be the case, that one shouldn't use half-volume PCRs?
A. Correct.

Q. And so a change was made so that it is only now only full-volume PCRs from early in February 2013?
A. Yes.

Q. Given that history, it is not a question of you speaking to Ms Brisotto and her saying that the reason to do half volumes is because Cathie Allen has said so. At a time, half volumes were being done because the management committee approved of a report that had been prepared for its consideration?
A. From my observations, regardless of the report, the report may show that the half volume was acceptable to use, but from my experience of looking at the profiles during the validation, my opinion was that it was going to cause problems.

Q. That wasn't a concern that you identified at the time of the management committee approving the report though; it may have been one that you identified soon after?
A. Well, I believe that I spoke to Paula before it was signed off, and so I identified before it was signed, but the report itself and what the report said I would have agreed with at the time. But that doesn't necessarily mean just because - just because a validation shows that it is okay doesn't mean that it is necessarily appropriate to implement.

Q. These events are more than 10 years ago. It must be difficult to remember the precise chronology about how these things unfolded; do you agree?
A. Some of these events are also quite clear in my mind.

Q. If it was not you identifying a concern about using half-volume PCRs after the management committee signed off on the report in December 2012, you don't know what it was, I suggest, that caused the revision reflected by Mr Howes' entries in the minor change registry?

A. What was caused by the revision was that we implemented half volume and we found that the interpretation of the profiles was difficult, which is what I had suggested when I suggested that we don't implement half volume, and once we had implemented, we identified that that was a problem, which subsequently caused us to have to go back and reprocess all of those samples that were amplified at half volume.

Q. The half-volume PCRs that were used were used for a brief period of time after the management committee approved the report?
A. Correct.

Q. And so in terms of what you have said in paragraph 77, it wouldn't be right to say that half volume was being used because Cathie Allen had said so, but, rather, because that's what the management committee had signed off on?
A. The impetus behind the implementation of the half-volume amplifications was because it reduced the consumables and was therefore reduced cost. And that's why the - my understanding is why the half-volume amplifications were being progressed and were preferable, even though, yes, I did highlight that I didn't think that it was going to work. And ultimately after implementation, it was shown that it didn't work.

THE COMMISSIONER: Q. Ms Caunt, do you know why the minor change entry was made on 4 February 2013 to cease using half-volume amps and to use full-volume amps?
A. I believe it was because we were struggling with the interpretation of the profiles at half volume.

MR DIEHM: Q. Ms Caunt, I just want to ask you about one other matter. In paragraph 108 of your second statement - if that can be brought up on the screen, please. I'm sorry, Commissioner, before I move on, I should have tendered that last document that I had up on the screen. I can read that page back out.

THE COMMISSIONER: Do you want to tender both documents - the project report and also the minor change direction, or at least the pages to which you referred?

MR DIEHM: Yes, I should do, because the project report is actually an annexure to Mr Howes' statement.

THE COMMISSIONER: Yes, you may as well tender it as a document. Would you describe it? It is project what?

MR DIEHM: Project #107.

THE COMMISSIONER: The report of Project #107 is exhibit 78.

EXHIBIT #78 REPORT OF PROJECT #107

THE COMMISSIONER: The two entries from the minor change register of 4 February 2013 and 22 February 2013 are exhibit 79.

EXHIBIT #79 TWO ENTRIES FROM THE MINOR CHANGE REGISTER OF 4 FEBRUARY 2013 AND 22 FEBRUARY 2013

MR DIEHM: Thank you, Commissioner.

THE COMMISSIONER: Mr Diehm, you haven't put, I don't think - I don't know whether you intend to - that Ms Brisotto did not give that answer that is referred to in paragraph 77. Did you intend to do that or not?

MR DIEHM: My client doesn't have a recollection of the conversation, so submissions will be made based on the documents.

THE COMMISSIONER: No, that's fine.

MR HUNTER: Commissioner, can I just clarify with respect to the minor change register that has been tendered that it is your intention that only those two entries will be --

THE COMMISSIONER: I did, but I don't mind the whole thing going in.

MR HUNTER: It is not my client's document, it is Queensland Health's document, but it contains throughout it --

THE COMMISSIONER: Confidential material?

MR HUNTER: -- contact details and so forth that need to be redacted.

THE COMMISSIONER: I will limit it to those two entries,

as I had intended, because they don't contain anything confidential. If anybody actually wants copies of them, we can always provide copies of those entries. Thank you for mentioning it, Mr Hunter. Mr Diehm?

MR DIEHM: Thank you, Commissioner.

Q. Now, Ms Caunt, paragraph 108 of your statement starts off by speaking about something that happened in 2018, and that was that:

> *... after the validation of the 3500's, peak heights were of a reasonable height and profiles were easy to interpret ...*

Then it says:

> *... however now the peak heights are much larger and show issues with pull-up which affects the interpretation.*

You then go on to say that you mentioned something of this to Ms Brisotto. When is it that you are speaking of about the peak heights being much larger and showing issues with pull-ups?
A. I've just realised that that date is actually wrong. That's 2021, not 2018.

Q. Yes, because the 3500s weren't implemented until February 2021?
A. That's right, yes.

Q. Can you recall when in 2021 it was that this conversation happened?
A. No. I just know that there was a - that when the 3500s were implemented, peak heights were what I call reasonable. What I mean is they were interpretable without being influenced by pull-up peaks. But even now, peak heights that are generated by the 3500s are much bigger than they were when we first implemented, which causes pull-up and then affects the interpretation. So it's my opinion that there has been a change in the peak heights between implementation in February 2021 and the current day.

Q. The concern that you spoke of as having communicated to Ms Brisotto wasn't the subject of any email?

A. No, it wasn't.

Q. You are a person who it might be thought from the evidence before the Commission will commonly put concerns of such a nature in emails to communicate in a form of a record your concerns?
A. Not necessarily, no. Particularly with Paula, I find Paula very approachable, so it's quite easy to go over and have a chat with her. So, no, I wouldn't necessarily put it in an email.

Q. Do you have an expectation about what would ordinarily be the response to a problem of the kind that you say you identified to her?
A. Some kind of acknowledgment that, "Okay, there might be an issue. Can you find me more evidence?", or, "Maybe I will speak to somebody and we will have a look", or something to indicate that, you know, my observation, my opinion, may not be true, but to be validated and to at least have somebody say, "Okay, let's have a look at this" would be my expectation.

Q. Would you think it within the bounds of what would be the usual sort of response to a problem of that kind for it to be referred to the line manager of the analytical team to look into?
A. Not necessarily.

Q. That there would be a quality check to assess whether there were any artefacts within the process?
A. I don't understand what you mean by that.

Q. You are familiar with a concept or a term, the CE process?
A. Yes.

Q. As part of that, are there CE quality checks that can be undertaken?
A. Yes.

Q. And that if there is increased pull-up observed, then there may be an examination to check spectral calibration?
A. I don't really know the details about that.

Q. You don't know the details of the technology that is being used in that sense, because it is not your area; is that what you are saying?

A. Not the technology. I don't know about the CEQ check process.

Q. In any event, an examination of the processes, the equipment, the settings, the reagents being used might be looked into to see whether there is an explanation for the pull-ups that are being observed?
A. There might be.

Q. You would expect, as part of the ordinary course of a response to a concern of the kind that you identified, that there would be that kind of a process engaged in?
A. Possibly, yes.

Q. In your experience, Ms Brisotto is the sort of person that would provide that kind of a response to a concern that you identified?
A. Yes, I would expect so.

Q. So if there was a concern of the kind you identified, I would suggest to you that Ms Brisotto would have given you that kind of response rather than just saying, "Well, it's something in the past. You don't need to worry about it"?
A. On this occasion, she didn't.

Q. And you didn't take the matter any further?
A. No, because I felt like my concern was not a concern, because that's how I interpreted her response to be.

Q. Well, did you accept that it was not a concern?
A. No.

Q. Then given what you have described as being the nature of your working relationship with Ms Brisotto, why would you not have said to her, "Look, I'm not so sure that that's the answer. Can we look into it?"
A. Because I - I suspect that my feeling was that it wouldn't have made any difference. I felt that my concern had not been validated. You know, my experiences with providing feedback in the recent years has not been great. And so I've raised it. If I'm not going to be heard, then there's probably not much more that I can do.

Q. From what you said before, that wasn't your experience with Ms Brisotto?
A. Not previously, no.

Q. So, therefore, you wouldn't have had any reason to have that feeling about her immediate statement that you attribute to her at that time?
A. Maybe not, but this was the conversation as I recall it, and they were my actions. If I didn't follow it up and I should have done, then maybe so, but at this point in time, that was the response that I was given.

Q. Do you think, then, reflecting on it, that there just might have been a failure of communication on both sides to really get across what you were needing to say?
A. I don't think it was a failure of communication, because I feel that I am capable of communicating my concerns. So I don't think it was a failure of communication.

MR DIEHM: Thank you, Commissioner.

THE COMMISSIONER: Thank you, Mr Diehm.

MR RICE: Nothing from me, thank you.

THE COMMISSIONER: Mr Hickey?

MR HICKEY: I've got two short matters.

THE COMMISSIONER: Why don't you go ahead.

<EXAMINATION BY MR HICKEY:

MR HICKEY: Q. Ms Caunt, I'm representing Cathie Allen and Justin Howes. I've got two issues, please, to take up with you. The first is this: if we could turn, please, to paragraph 16 of the second statement of Ms Caunt, Mr Operator, thank you. Now, before I press on, could you tell me, please, how you pronounce the word spelt L-O-C-I?
A. Loci.

THE COMMISSIONER: It is an Americanism, Mr Hickey.

MR HICKEY: I read the interim report and I was sure the Commissioner was correct, but I didn't want to get it wrong with the witness.

Q. So there in paragraphs 16 to 21 you have explained the lead-up to your presenting a suggested workflow in respect

of the removal of a single loci, and then in paragraphs 22 to 28 you go on to explain some communication that you had, and you make some general expressions of concern about what I apprehend to be your complaint that things weren't appropriately followed up. Is that a reasonable summary of that passage of your evidence?
A. Yes.

Q. Now, I want to suggest some facts to you, and you tell me whether you are aware of them or not. Mr Howes, in response to that communication of yours that you identify in paragraph 22, emailed senior scientists with the intention to meet with them and to discuss the topic that had been raised by you. Are you aware of that?
A. I'm sorry, can you say that again?

Q. Yes. Mr Howes emailed senior scientists, and in particular, those senior scientists were Ms Rika and Ms Johnstone, to meet and discuss with him the topic that had been raised by you.
A. Okay.

Q. Were you aware that he did that?
A. Given that I received no response, then, no, I wouldn't have been aware.

Q. You are not presently aware?
A. I can't remember. I'm - I may be - somebody may have told me, but I can't remember if I've been told or not.

Q. And indeed, then, he met with Ms Rika and Ms Johnstone and decided that he would contact the BSAG?
A. I'm not aware of that.

Q. He asked Ms Rika and Ms Johnstone to check the email he proposed to send to BSAG to ensure it was what the team wanted to ask them?
A. I'm not aware of that.

Q. And he then ultimately sent that email to BSAG?
A. Not aware of that.

Q. Now, pause there. If you assume that I am correct - or, rather, if you assume that each of those facts that I have just set out for you is true, would you agree with me to that point that those were an appropriate set of steps to take in response to the correspondence that you

had sent that you identified in paragraph 22, as initial steps?
A. As initial steps, yes.

Q. And were you aware, then, that shortly after sending the email to BSAG against the background that I've just described, he forwarded to Ms Rika and Ms Johnstone the spreadsheet of responses that he had received from BSAG?
A. I'm not aware of that.

Q. And then some little time later, he received a further reply from another member of the BSAG, which he also forwarded on to Ms Rika and Ms Johnstone?
A. I'm not aware of that.

Q. If you assume that each of those facts that I've just identified for you is true, it would have been a reasonable expectation on your part, wouldn't it, to have expected that Ms Johnstone or Ms Rika, or both, might have mentioned those things to you?
A. I would say probably more Sharon Johnstone, as she is my line manager.

Q. And she's the one that you have more day-to-day contact with than Mr Howes?
A. I probably don't have a lot of day-to-day contact with her, but probably more than Justin Howes, yes.

Q. In any event, she's the one who is directly responsible, typically, for communicating to you and to other members of the team information that comes from further up the line management chain?
A. This is kind of a, for want of a better word, foggy area, because previously when I was working on STRmix, implementation of PP21, troubleshooting, training, everything else, actually, although I was at the time under Kylie Rika's line management, I reported all things interpretation and STRmix directly to Justin and worked directly with Justin. So even though there was always a line manager in between Justin and I, when things of interpretation came up for discussion, Justin and I would communicate directly.

However, over the years, that line has kind of become a bit foggy for me and I'm not really sure what the - how that relationship sits. So I wouldn't necessarily say that I would expect that information from Justin would come via

a line manager, because we have had a very direct relationship with respect to this kind of work.

Q. If your criticism is a fair one - which is to say that you received no response to your communiqué in paragraph 22 there and that there was generally a failure to pass on to you whatever feedback had been obtained - in circumstances where you had emailed, in the first instance, Ms Johnstone, Ms Rika, Ms Lloyd and Mr Howes, if indeed both Ms Johnstone and Ms Rika knew the same things that Mr Howes knew, that is a criticism which is equally borne by all three of them, you would agree?
A. Yes.

Q. And did you know that over the months after you sent that communiqué in paragraph 22, Mr Howes was working with at least Ms Rika and Ms Johnstone on information that was being sent to and being received from BSAG?
A. Well, my understanding is that the current spreadsheet was completed in December 2021, so I'm not sure that communication is still happening.

Q. I didn't suggest to you it's still happening. What I said to you was were you aware, say, for instance between October 2021 and December 2021, that Mr Howes was in regular communication with both Ms Rika and Ms Johnstone about this very issue?
A. No.

Q. And if that indeed was occurring, would you agree with me that that evinces his taking seriously the concerns that you had raised in the email in paragraph 22?
A. Well, for me, I don't know that it's being taken seriously if nobody's passing the informing to me.

Q. No, I didn't ask you that. I accept that. What I asked you was do you agree with me that if what he did was consulted with those other two senior managers regularly, and ultimately sought advice from BSAG about what other jurisdictions were doing, that evinces his taking seriously the matters that you had raised in paragraph 22?
A. Yes.

Q. Thank you. Now, could we go, please, to paragraph 29, where you say to the Commissioner:

I have read the BSAG excel spreadsheet, and every interstate opinion represents the same position as me about when and how many loci to remove.

Now, can we pause there, please, and can we take up exhibit EC-011 to Ms Caunt's second statement. The number is [WIT.0004.1226.0001]. I'm sorry, it is EC-01-1, [WIT.0004.1226.0001]. That's it, thank you. Now, this is the workflow that you proposed that was connected to the email that you forwarded, wasn't it?
A. Yes.

Q. Can I just ask you some questions about this, please. This is what you proposed - and correct me if I'm wrong in my summary of this. This is the workflow that you proposed in respect of when and the number of loci that should be removed in the process of pulling up affected stutter peaks?
A. Yes.

Q. If we look at that document, we see, moving from left to right, in the top right-hand corner of the page, just to the right of the exhibit number, in a rectangular box, "Drop locus". That's the time at which, in the workflow, you suggested the loci, if any, should be removed?
A. Yep.

Q. So you would accept, wouldn't you, that according to your workflow, there was a prescription about the time at which the loci should be removed, if any?
A. Yes.

Q. Then what we see is a footnote appended to "Drop locus" and if we look to the bottom right-hand corner of the screen we see where that footnote is set out, and here you say, or suggest, perhaps more fairly:

A maximum of one locus can be dropped per interpretation.

A. Yes.

Q. So would you agree with me that what you were suggesting, your proposed workflow, was prescriptive in that it articulated a rule that only one locus could be dropped per interpretation?

A. Potentially, yes.

Q. That's the effect of it --
A. Yes.

Q. -- on its face, you would agree?
A. Yes.

Q. Could we go then, please, to exhibit EC-04-1, and I will assist you, Mr Operator, with the document number in a moment. You don't need my help, thank you. [WIT.0004.1230.0001]. This is the spreadsheet which you have been asked about and you gave me some information about a few moments ago, which contains the summary of the responses from BSAG which was assembled by Mr Howes.
A. Yes.

Q. You don't suggest, do you, that this document is not an accurate record of what he was told by the representatives of the other jurisdictions?
A. No.

Q. Now, just so that we can familiarise ourselves with what this document contains, what we see in the first row is the contents of Mr Howes' question to the other members of BSAG. Do you see that?
A. Yes.

Q. You are familiar with this document, I presume?
A. Yes.

Q. You don't have any difficulty, do you, with the substance of the email that he sent to BSAG?
A. Yes.

Q. That is to say no, you don't have any concerns?
A. Sorry, no, I don't have any concerns.

Q. Just so the record is clear. Then as we work our way down the document we see the date, 15 December, he receives - Mr Howes - an email from Pam at FSST. Now, that's the Tasmanian equivalent of Queensland's FSS, isn't it?
A. Yes.

Q. If we look closely at what Pam says to Mr Howes, in the first paragraph, she says this at the end of the second

line:

> *To my knowledge we have only ever had one locus in a particular profile at a time needing to be ignored. We have not set a maximum number allowable.*

Would you agree with me that the Tasmanian position does not prescribe a maximum of one consistently with the rule that you were proposing in the document that I took you to, EC-01-1?
A. Yes.

Q. So in that way, the Tasmanian approach is different, you would agree, from what you were proposing in your workflow?
A. No. So if Pam is saying, "To my knowledge we have only ever had one locus in a particular profile", they have only ever had to address the issue of whether one locus is going to be removed. She doesn't say whether, if somebody wanted to drop two loci, would that be an appropriate thing to do. What she has said is that, "We've only ever needed to remove one." Yes but you would agree, wouldn't you, that her final statement is:

> *We have not set a maximum number allowable.*

That suggests she, or at least Tasmania, does not think it is necessary to set a prescriptive rule in the way you have proposed?
A. Well, they wouldn't set a prescriptive rule if they had only ever seen one locus at a time be dropped.

Q. Then if we scroll down, we see on 16 December some correspondence was received from Lisa at Vicpol. Now again I presume that's the Victorian correspondent of --
A. Yes.

Q. The Victorian equivalent of FSS. We see in the final paragraph, Lisa tells Mr Howes:

> *We don't have rules around how many loci can be dropped from the one sample, however, I don't know of any situation where we have had to drop more than one.*

A. Yes.

Q. So again, I suggest to you, Victoria, in marked difference from what you were proposing in your workflow, does not have a prescriptive rule about how many loci can be dropped, as the case may require?
A. I think making that comparison may be misleading, for the following reasons: so, firstly, she says that if pull-up is extreme and affecting peaks at other loci, the sample would be re-amped at a dilution in order to get rid of the pull-up. She also says that generally they only remove loci for trisomies, which is mutations that we talked about earlier. And so why would they need to consider the option of dropping multiple loci due to pull-up affected stutter when they actually resolve it in other ways. So again, it's not a direct comparison to the workflow that I was proposing.

Q. So you disagree that it doesn't - it's not different from your rule?
A. No.

Q. And just so that I can be clear in your answer to my question, you don't accept that it doesn't contain a rule prohibiting more than one loci being removed?
A. No, it doesn't contain a rule, but it also considers the dropping of loci in a completely different set of scenarios to the consideration that I have put.

But can I also add that earlier we talked about deviating from SOPs and that a deviation from a SOP is allowable, provided that there are documented reasons for doing so. So yes, in my workflow, I can suggest that only one locus at a time be dropped because, in my opinion, dropping more loci affects the STRmix interpretation and can therefore affect the outcome of the interpretation, so dropping loci is a risk. You have to balance that, and so if somebody needed to deviate from that, they can do that, provided it's documented and the risk has been appropriately assessed.

So it wouldn't be fair to say that I'm putting in a blanket rule. What I'm suggesting is that when you balance the risk of dropping multiple loci and the impact that that can have on the interpretation, with the fact that pull-up can be easily addressed by amping a sample down and putting less DNA in it, the best option is to amp it down and put less DNA in it than it is to remove multiple loci and

potentially affect the interpretation.

Q. You would agree with me we don't see anything like that explanation, either in your workflow or the email by which you sent it?
A. Because it's only a suggested workflow. Nobody's asked me for any details around it, nobody's asked me for any discussion or anything like that. It was a proposed workflow because we had an issue that I thought needed to be addressed, and therefore, I put together what I thought would be an appropriate workflow to address it. I'm not saying that that's the only way we can do it. That's my opinion on one way that we can address this issue. It hasn't been put in a SOP. It hasn't been discussed.

Q. And if we go back to the document on the screen there, please, and we scroll to the bottom, we see here some correspondence from somebody whose name is unknown in Western Australia. Again, I presume you accept that this came from the Western Australian equivalent of FSS?
A. The one at the top there is actually New South Wales.

Q. No, I'm sorry, further down.

THE COMMISSIONER: The last one?

MR HICKEY: Yes, that's the one.

THE WITNESS: Western Australia.

THE COMMISSIONER: "Wishing all a very happy new year!" That's the one?

MR HICKEY: That's the one.

Q. There, in the last paragraph, we see whoever this is says in the second line:

> *... we don't ignore multiple loci. If there is a requirement to ignore multiple loci, I would suggest that the profile has systemic issues and should not be interpreted. However, we do not have strict guidelines as to the maximum number of loci or molecular weight of the loci that may be ignored. If there is clear justification to ignore a locus (that can*

be supported scientifically), I would consider personally ignoring multiple loci.

So can I again suggest to you that this is different, in that it is not prescriptive in the way that your workflow suggested a rule should be prescribed?
A. So again, absolutely agree that if there is a justification that can be supported scientifically for removing more than one locus, absolutely, go ahead and do it. But my opinion is that as a general rule in a general workflow, it is not something that we should be doing all of the time.

Q. Could we go then, please, back to the second statement.

THE COMMISSIONER: Just before you do.

Q. The problem that we're addressing, I just want to understand it, is a locus that is suspect and is distorting the reading, so you want to do something with it?
A. Yes.

Q. And you have charted out a workflow that might lead to a decision to remove it from consideration by STRmix, and your view is that you ought not remove more than one locus from consideration by STRmix for that reason, because that would tend to distort the operation of the model so that the result is at risk of being unreliable. That's the starting point, isn't it?
A. Correct, yes.

Q. And the second thing you have said is that if there is a good reason by which you could justify taking that risk, well, then, you could take that risk?
A. Yes.

Q. And the third thing you have said is that - and this is the point of my question because that's the part I don't understand - if you need to remove more than one locus from consideration, then it's better to do the amping and testing again, and did you say with a sample that is more diluted?
A. Yes. So the general theory around the use of STRmix is that if you have an issue, the best way to resolve that issue is biologically. So that means do something with the sample, rather than tamper with the STRmix settings, and so

if you have pull-up affecting your stutter, you have probably got too much DNA in your sample, and so the first port of call would be to actually reduce the amount of DNA in the sample to try and get rid of the pull-up so that the issue isn't even there at all, and then you don't need to worry about what to do with STRmix.

Q. So this is something that hasn't yet emerged although I have seen it before - if you have too little DNA then you may have problems getting a useable profile, but there are techniques you can adopt to maximise your prospects of getting a useable profile from a quant with a low concentration of DNA?
A. Yes.

Q. The converse is that if you have too much DNA in a sample, again, you may have a problem getting a useable profile because then there is too much in the profile that is not representing the truth, as you would see it, so you would then use techniques, and largely the technique would be to dilute the sample to an optimum concentration; is that right?
A. That's right, yes.

Q. And so there is a Goldilocks zone in which you have a concentration which is optimal for the production of a useable profile?
A. Yes.

THE COMMISSIONER: Mr Hickey, are you moving on from this controversy about the ignoring loci?

MR HICKEY: Yes.

THE COMMISSIONER: I just want to ask something else.

Q. I just don't understand the timeline. You might be able to explain it to me. You raised - I will just go back to your statement. Yes. You need not look at it, but at paragraph 26 of your statement you refer to an email that Kylie Rika sent to Mr Howes referring to issues that you and Ms Adamson and Ms James had raised about inconsistencies with interpretations?
A. Yes.

Q. And possible solutions. And we've seen that. That's 31 May 2022. And then there follows in that email chain,

which is part of exhibit 4 to your statement, an exchange of emails from May 2022 through to August 2022, and it is in August 2022 that Mr Howes responded to say, "I had asked BSAG for some information and I got it." But that information was obtained in December of the preceding year, it seems.
A. So the pull-up in stutter position issue has been one that has been ongoing for a while, and so in October I decided that we needed to make some kind of move on this, some way of dealing with it, so I put a workflow together and passed it to Allison Lloyd who was acting for the team leader at the time. So in May 2022, when I had met with Angela and Cassandra to put these things together, it was an outstanding item. So outstanding since October 2021.

Q. So you had raised the issue, among other things, as I understand it, of the multiple loci in October 2021?
A. Yes.

Q. And is that when you formulated that workflow, or did you do that in 2022?
A. No, I formulated the workflow in October 2021.

Q. And submitted it to somebody?
A. Allison Lloyd.

Q. So then, in May, Ms Rika does something with Mr Howes and then there is the email chain leading to August?
A. Yes.

Q. But the information in relation to the matter that you raised, the subject of your workflow, had been obtained in December but evidently not communicated to anybody?
A. Well, it hadn't been communicated to me. I don't know who else it may or may not have been communicated to.

THE COMMISSIONER: Thank you, I understand it now. Mr Hickey?

MR HICKEY: Can I just foreshadow, Commissioner, given the tenor of your last question, the evidence I anticipate will come is that it was promptly and immediately communicated both to Ms Rika and to Ms Johnstone. So it's not right to say it wasn't communicated.

THE COMMISSIONER: No, no, that's Ms Caunt's position, that she didn't know.

MR HICKEY: Yes.

THE COMMISSIONER: But whether other people knew is a whole different thing.

MR HICKEY: Quite.

Q. I just wanted to finish with this issue. You've given some evidence about Mr Howes telling you that requests for STRmix support needed to be directed through him?
A. Yes.

Q. Now, the reason for that is, isn't it, because STRmix support is not free?
A. Correct.

Q. And you don't have the financial authority to order that support yourself unilaterally?
A. Correct.

Q. Whereas he does?
A. I don't know.

Q. But in any event, on any occasion that you have sought access to STRmix support, Mr Howes has not declined to obtain that support, has he?
A. I don't know. I can't answer that question, because there have been occasions where I've asked to seek external advice and that's not been allowed. So I can't - I can't remember whether I specifically asked to contact STRmix support and it has been refused. So I can't answer that question. I don't know.

MR HICKEY: All right. Those are the questions, thanks, Commissioner.

THE COMMISSIONER: Thank you, Mr Hickey. Does anybody else have anything? Ms Hedge, do you have anything in re-examination?

MS HEDGE: I don't. Might Ms Caunt be excused?

THE COMMISSIONER: Yes, thank you, Ms Caunt, for your assistance. You are excused.

<THE WITNESS WITHDREW

THE COMMISSIONER: What's happening tomorrow, Ms Hedge?

MS HEDGE: We have two further scientific witnesses, Dr Ingrid Moeller and Ms Kylie Rika. So that's all that is planned for tomorrow.

THE COMMISSIONER: All right. Then shall we adjourn until 9.30 or 10 tomorrow? I guess 9.30 is safer, if nobody objects. No problem for anyone? All right. Well, thank you. We will adjourn until 9.30 tomorrow.

AT 4.58PM THE COMMISSION WAS ADJOURNED TO THURSDAY, 13 OCTOBER 2022 AT 9.30AM

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