

# Commission of Inquiry Recommendation Implementation

## Forensic Science Queensland

### ISSUES BRIEF - Recommendation 31

<b>RECOMMENDATION WORDING</b>	The laboratory should review its standard operating procedures within 3 months to remove any wording that could lead to systemic overestimation of the number of contributors in a profile, as identified in Dr Duncan Taylor's report, and amend its number of contributor guidelines to adopt a conservative approach based on best practice.		
<b>THEME</b>	Case Management		
<b>FSQ LEAD</b>	Natasha Mitchell, Manager, Forensic Biology		
<b>REPORT PREPARED BY</b>	Hannah Jarman, Executive Advisor, Office of the CEO	<b>DATE REPORT PREPARED</b>	20 March 2023

### ISSUE

- Recommendation 31 has a designated timeframe of three months, which from the publication of the Commission of Inquiry's final report ("the COI report") on 13 December 2023 would be 13 March 2023.
- This timeframe will not be met due to the need to organise and deliver training to staff followed by a significant update of internal standard operating procedure.

### BACKGROUND

- The Commission of Inquiry engaged experienced scientist and technical developer of the DNA profile interpretation software STRmix™, Dr Duncan Taylor (Forensic Science SA), to review Forensic Biology's use of STRmix™.
- Dr Taylor identified Forensic Biology's practice to assign the number of contributors in a DNA profile presented a risk of systemic overestimation that falls below best practice.
- Section 306 of the COI report states:
  - *Dr Taylor found that some passages in the standard operating procedure 'Basics of DNA Profile Interpretation', if applied, would lead to a systemic bias towards overestimating the number of contributors to a DNA profile. This is below best practice. He stated that conforming to the standard operating procedure as written would "very regularly" lead to a DNA profile with an additional contributor added.*

### ACTION TO DATE

- On 15 February 2023 Dr Taylor, Lisa Federle (Victoria Police Forensic Services Department), and Julie Murakami (PathWest WA), presented a profile interpretation workshop to Forensic Biology case managing scientists.
- Forensic Biology is currently drafting interim profile interpretation guidelines modelled on the guidance obtained from the workshop.

- The interim guidelines are in their final stage of development and are anticipated to be implemented within the next week.
- A comprehensive update of the standard operating procedure 'Basics of DNA Profile Interpretation' is still required. This is a much larger body of work and will require significant internal review.
- Further staff training and education on the detail and contemporary research underpinning the interim guidelines is required and will be delivered as a matter of priority in April and May 2023.

## PROPOSED NEW TIMELINE

- FSQ propose a new timeframe of six months which from the publication of the Commission of Inquiry's final report on 13 December 2023 would be 13 June 2023.
- This new timeframe is expected to allow sufficient time for FSQ to update the standard operating procedure and deliver necessary training to implement the recommendation.

## APPROVALS

<b>Endorsed by</b>	Jess Wellard, A/Chief Operations Officer
<b>Signature</b>	[REDACTED]
<b>Date</b>	27 March 2023

<b>Approved by</b>	Professor Linzi Wilson-Wilde, Chief Executive Officer
<b>Signature</b>	[REDACTED]
<b>Date</b>	27.03.23

# Commission of Inquiry Recommendation Implementation

Forensic Science Queensland

## ISSUES BRIEF – Recommendations 108 to 113

<b>RECOMMENDATION WORDING</b>	<p>108 - The laboratory should engage with external staff who deal with bone samples regularly, including mortuary staff, and facilitate the addition of such staff to the laboratory's elimination database in order to effectively discover any past or future contamination.</p> <p>109 - The laboratory must conduct a project to determine the optimal method for DNA extraction from bone samples and validate and implement that method for use in bone case work.</p> <p>110 - In addressing the recommendations within this section, the laboratory should engage with external service providers who have expertise in bone processing for guidance on best practice bone sampling methods and protocols that maximise the recovery of DNA profiles from bone samples.</p> <p>111 - The laboratory should review its internal policy regarding access by laboratory staff to the mortuary, in conjunction with mortuary staff, and consider the appropriate balance between managing the risks identified by the mortuary and the scientific benefits of bone scientists assisting pathologists with sample selection.</p> <p>112 - The laboratory should review its standard operating procedures and any relevant guidelines to ensure scientists with bone case work are able to engage with the necessary stakeholders in order to manage the case in a holistic way and deliver results to external stakeholders as promptly as possible.</p> <p>113 - The laboratory should implement a policy into its project and change management standard operating procedures that requires scientists with competency in bone sampling and reporting be consulted when changes to bone processing are considered.</p>		
<b>THEME</b>	Case Management		
<b>FSQ LEAD</b>	Natasha Mitchell, Manager, Forensic Biology		
<b>REPORT PREPARED BY</b>	Hannah Jarman, Executive Advisor, Office of the CEO	<b>DATE REPORT PREPARED</b>	22 March 2023

### ISSUE

- The Commission of Inquiry's final report did not place designated timeframes on recommendations 108 to 113, however, FSQ's ability to implement these recommendations is dependent on the ability to process bone samples.
- Forensic & Scientific Services ceased the process of bone sampling on 9 December 2022.

- On the best available information to date, the process of bone sampling will not be able to be re-validated and recommended in Queensland until FSQ has a fit for purpose facility for this analysis.
- At present, there is insufficient space to deliver this laboratory within the existing campus footprint and alternative options have not been able to be identified.
- Therefore, Queensland is unlikely to be able to deliver DNA analysis services for bone for several years – leaving these six recommendations from the Commission of Inquiry at risk and unable to be implemented.

## BACKGROUND

- The Commission of Inquiry identified contamination in bone samples analysed at FSQ. While the exact cause of the contamination issues remains unknown, the likely site of the contamination is the bone laboratory in Block 6.
- The final Commission of Inquiry report recommended that all bone samples requiring DNA profiling be sent to an external facility for sampling and profiling until a new, clean laboratory space is available.
- Professor Linzi Wilson-Wilde, Chief Executive Officer FSQ, has finalised an agreement with the Australia Federal Police (AFP) on 20 March 2023 to process bone samples for FSQ.

## ACTION TO DATE

- FSQ have ceased processing of bone samples as per recommendation 107.
- Negotiated an outsourcing service via the AFP to provide this service in the interim.

## PROPOSED NEW TIMEFRAME

- Until a review of the existing facility is conducted, FSQ is unable to accurately propose a new timeframe until. FSQ is working with the Health Capital Division to progress this.

## APPROVALS

<b>Endorsed by</b>	Jess Wellard, A/Chief Operations Officer
<b>Signature</b>	[REDACTED]
<b>Date</b>	27 March 2023

<b>Approved by</b>	Professor Linzi Wilson-Wilde, Chief Executive Officer
<b>Signature</b>	[REDACTED]
<b>Date</b>	27 March 23



# Commission of Inquiry Recommendation Implementation

Forensic Science Queensland

## ISSUES BRIEF - Recommendation 24

<b>RECOMMENDATION WORDING</b>	The laboratory should amend its standard operating procedures within 3 months to require scientists to consider the appropriateness of external testing of samples at all stages of testing and reporting, taking into account case context and results obtained by the laboratory, and proactively advise QPS about the scientific benefits of outsourcing testing where relevant.		
<b>THEME</b>	Case Management		
<b>FSQ LEAD</b>	Natasha Mitchell, Manager, Forensic Biology		
<b>REPORT PREPARED BY</b>	Hannah Jarman, Executive Advisor, Office of the CEO	<b>DATE REPORT PREPARED</b>	17 March 2023

### ISSUE

- Recommendation 24 has a designated timeframe of three months, which from the publication of the Commission of Inquiry's final report on 13 December 2023 would be 13 March 2023.
- While delivery of this recommendation has been commenced, including outsourcing of samples for further testing, this three-month timeframe has not been fully met due to unexpected challenges encountered in delivering on the full intent of the recommendation.

### BACKGROUND

- FSQ do not currently offer a range of forensic DNA testing techniques that are available in other Australian and New Zealand forensic biology laboratories. Some of these techniques include:
  - *Y-STR testing;*
  - *DNA mixture matching;*
  - *Dedicated techniques for low level DNA*
  - *Optimised testing for degraded and/or inhibited samples (including AmpFISTR MiniFiler); and*
  - *5-person plus DNA mixture interpretation.*
- Since these specific testing types are not offered at FSQ, it has been identified that existing FSQ staff do not currently have detailed knowledge of these types of testing necessary to underpin meaningful recommendations to QPS about which samples would benefit from these specific testing types.
- Paragraph 287 of the COI report found:

*In circumstances where other testing methods exist but are not available internally, it is incumbent upon the laboratory to consider the forensic benefit of outsourcing samples, in circumstances where the result of external testing is likely to produce more probative evidence than available through methods in the Queensland laboratory alone.*

- Updating the Forensic Biology standard operating procedure to require case managing scientists to consider the full range of available empirically validated forensic DNA testing techniques in Australia and New Zealand will support best practice by ensuring the most appropriate technique is applied to obtain the most probative result.
- This must be partnered with training to build the knowledge of FSQ scientists on these techniques and the circumstances in which they are applicable, to inform appropriate case recommendations to the QPS.

## ACTION TO DATE

- FSQ have begun drafting changes to standard operating procedure “Forensic DNA Analysis – Procedure for external testing and transfer of samples” to specify case managers must consider the appropriateness of external testing of samples at all stages of testing and reporting, taking into account case context and results obtained by the laboratory, and proactively advise QPS about the scientific benefits of outsourcing testing where relevant.
- Case review discussions with Prof. Wilson-Wilde or Natasha Mitchell, both externally recruited scientists, specifically cover the suitability of other testing types and as such some samples have been progressed for outsourced testing not currently offered at FSQ.
- Significant steps have been undertaken to recruit to further scientist positions, in order to broaden the knowledge currently held at FSQ. Shortlisting is currently underway for a large number of positions.
- Recruitment is also underway for a Manager, Innovation, who will be primarily responsible for the introduction of and training in new technologies. FSQ is working towards a target commencement date of 1 May 2023.
- This additional recruitment will ensure FSQ has the capacity to provide detailed education and training in contemporary forensic science techniques, including testing available elsewhere.
- On 20 March 2023 Forensic Science Queensland (FSQ) finalised agreement with the Institute of Environment and Research, New Zealand (ESR) for ESR to receive samples and perform Y-STR testing on samples identified by the FSQ case manager as benefiting from this technique.

## PROPOSED NEW TIMEFRAME

- The successful completion of this recommendation requires significant training of staff which must be sourced and delivered.
- FSQ propose a new timeframe of six months which from the publication of the Commission of Inquiry’s final report on 13 December 2023 would be 13 June 2023.
- This new timeframe is expected to allow sufficient time for FSQ to set up further external testing agreements, and finalise the updated procedure, including providing adequate training and education to staff about the testing categories available elsewhere.

**APPROVALS**

<b>Endorsed by</b>	Jess Wellard, A/Chief Operations Officer
<b>Signature</b>	[REDACTED]
<b>Date</b>	27 March 2023

<b>Approved by</b>	Professor Linzi Wilson-Wilde, Chief Executive Officer
<b>Signature</b>	[REDACTED]
<b>Date</b>	27.6.23



# Commission of Inquiry Recommendation Implementation

Forensic Science Queensland

## ISSUES BRIEF - Recommendation 4

<b>RECOMMENDATION WORDING</b>	The laboratory should, within three months, implement a case management approach for Major Crime (including cold cases), which includes: <ul style="list-style-type: none"> <li>a. appointing a reporting scientist as case manager to each case upon receipt of samples at the laboratory;</li> <li>b. obtaining sufficient case context from the QPS for the purpose of devising a fit-for-purpose examination strategy and case managing the case;</li> <li>c. conferring discretion upon the case manager to devise a fit-for-purpose examination strategy for the samples received in the case, including a triage or staged approach if appropriate;</li> <li>d. conferring discretion upon the case manager in relation to all aspects of the case prior to the release of results, including re-working, re-testing, re-interpretation, advising the QPS that a sample should be sent to an external provider for testing that is not currently available at the Queensland laboratory (including Y-STR) and requesting the QPS submit additional samples for testing; and</li> <li>e. the case manager reviewing the whole of a case before any final result is reported to the QPS or the criminal justice system (with the potential for a different approach to interim results reported with appropriate caveats).</li> </ul>		
<b>THEME</b>	Case Management		
<b>FSQ LEAD</b>	Natasha Mitchell, Manager, Forensic Biology		
<b>REPORT PREPARED BY</b>	Hannah Jarman, Executive Advisor, Office of the CEO	<b>DATE REPORT PREPARED</b>	20 March 2023

## ISSUE

- Recommendation 4 has a designated timeframe of three months, which from the publication of the Commission of Inquiry's final report on 13 December 2023 would be 13 March 2023.
- Recommendation 4 is a complex, multi directive recommendation that requires a complete restructure of the Biology Team of Forensic Science Queensland (FSQ) in order to change the way that work flows through the team. This requires team structure changes, IT systems changes, and alterations to the physical office layout and workflow through the laboratories, as well as the introduction of a hard copy file system to manage cases.
- In order to fully deliver this recommendation, the following lengthy actions must be taken:



- Changes to the Forensic Register, including building new functionality;
- Restructuring the Biology Team, which has industrial implications and necessitates significant staff consultation to change their roles. This can only take place through a Business Case for Significant Change process.
- This recommendation will therefore be delayed in delivery.

## BACKGROUND

- The Commission of Inquiry found FSS' sample-focused approach to results management highly problematic and called for a move to a holistic case management approach.
- Section 211 of the COI report states, "A case management approach is now essential to ensure the quality of results produced by the laboratory".

## ACTION TO DATE

- On 1 February 2023 FSQ mapped the current Forensic Biology workflows. The maps will be analysed against the end state of a case management approach to identify required workflow changes.
- Forensic Biology has actioned the following to partly address the specified sections of recommendation 4:
  - Appointing a reporting scientist as case manager to some cases upon receipt of samples at the laboratory. This is currently occurring on an ad hoc basis, for the receipt of high priority samples (generally P1 or sexual assault matters).
  - Finalising an agreement with QPS on the 17 March 2023 for further access to the Forensic Register (FR) for Case Managers to obtain necessary case information.
  - Reaching agreement with the QPS that Forensic Biology will now receive underwear from sexual assault cases as whole items from 3 March 2023 to perform evidence recovery. This will support the case management approach to sexual assault cases.

## PROPOSED NEW TIMELINE

- Given the extensive work required to implement the recommendation, which the Commission of Inquiry would not have foreseen, the recommendation is unlikely to be fully implemented until 2024.
- Early steps are being taken to introduce quasi-case management approaches for key matters such as sexual assault cases.
- Forensic Register upgrades are being sought, but the earliest likely deliver time is 2024 to enable full electronic case management. Hard copy files will be used in the meantime to enable the process to commence.
- A Business Case for Significant Change process will commence in April 2023 to address the industrial implications of a restructure. This process will not be finalised before June 2023 at the earliest, and may take significantly longer if challenged by staff or by the Union.
- FSQ will continue to update the Board on progress towards implementing this high priority recommendation.

## APPROVALS

<b>Endorsed by</b>	Jess Wellard, A/Chief Operations Officer
<b>Signature</b>	[REDACTED]
<b>Date</b>	27 March 2023

<b>Approved by</b>	Professor Linzi Wilson-Wilde, Chief Executive Officer
<b>Signature</b>	[REDACTED]
<b>Date</b>	27.03.23

# Commission of Inquiry Recommendation Implementation

Forensic Science Queensland

## RECOMMENDATION CLOSURE REPORT - Recommendation 59

<b>RECOMMENDATION WORDING</b>	The laboratory should implement peer checking of spermatozoa results on microscope slides in the Evidence Recovery team.		
<b>THEME</b>	Workflow change		
<b>FSQ LEAD</b>	Natasha Mitchell, Manager, Forensic Biology		
<b>REPORT PREPARED BY</b>	Hannah Jarman, Executive Advisor, Office of the CEO	<b>DATE REPORT PREPARED</b>	15 March 2023

### SUMMARY

- From 13 February 2023 the Forensic Biology Evidence Recovery team have implemented peer checking of all spermatozoa results on microscope slides.
- Standard operating procedure 17189 "Examination for and of Spermatozoa" has been updated to include this peer checking requirement.
- A new objective scoring protocol for spermatozoa is in development as a further process improvement.

### DELIVERABLES

MILESTONE	DATE COMPLETED		COMMENTS
Laboratory process change to implement peer checking of spermatozoa results on microscope slides	13 February 2023		Recommendation fully implemented.

### EXPENSES

No expenses, other than those absorbed by business-as-usual activities, were incurred during the implementation of this recommendation.

### LESSONS LEARNED/NEXT STEPS

- Peer checking/review is necessary for all critical results reported by Forensic Biology.
- Introducing peer review of spermatozoa results on microscope slides helps align Forensic Biology's spermatozoa identification with best practice.

- Forensic Biology is progressing including peer review as a requirement for any result released by the laboratory when implementing any new screening or testing capabilities.

## APPROVALS

<b>Endorsed by</b>	Jess Wellard, A/Chief Operations Officer
<b>Signature</b>	[REDACTED]
<b>Date</b>	27 March 2023

<b>Approved by</b>	Professor Linzi Wilson-Wilde, Chief Executive Officer
<b>Signature</b>	[REDACTED]
<b>Date</b>	27.03.23

# Commission of Inquiry Recommendation Implementation

Forensic Science Queensland

## ISSUES BRIEF - Recommendation 26

<b>RECOMMENDATION WORDING</b>	The laboratory should review its extraction negative control procedures within 3 months to require negative controls to undergo the same testing as the corresponding case sample (including further work), at the same time, unless the sample has been exhausted.		
<b>THEME</b>	Case Management		
<b>FSQ LEAD</b>	Natasha Mitchell, Manager, Forensic Biology		
<b>REPORT PREPARED BY</b>	Hannah Jarman, Executive Advisor, Office of the CEO	<b>DATE REPORT PREPARED</b>	15 March 2023

### ISSUE

- Recommendation 26 has a designated timeframe of three months, which from the publication of the Commission of Inquiry's final report ('the COI report') on 13 December 2023 would be 13 March 2023.
- This timeframe will not be met due to delays caused by the need to brief the Advisory Board on matters relating to this recommendation.

### BACKGROUND

- Section 294 of the COI report identified non-compliance of Forensic Biology's extraction negative controls procedure with ISO 17025 Specific Accreditation Criteria section 7.7.1.228, finding:  
*Best practice requires extraction negative controls (reagent blanks) to be routinely processed with samples, including where samples undergo further processing following an original procedure. The laboratory does not process extraction negative controls with samples undergoing upgrade or concentration.*

### ACTION TO DATE

- Discussions about this recommendation have been ongoing since the new CEO commenced on 16 January 2023. However, there were significant differences in opinion among Forensic Biology staff as to how best to implement this recommendation.
- On 10 March 2023, members from Forensic Biology management met to finalise the procedural change required to implementation of this recommendation.
- Changes to sample processing procedures are currently being drafted to include the requirement of processing extraction negative controls alongside the corresponding sample(s) when the sample(s) is undergoing upgrade or concentration.

### PROPOSED NEW TIMELINE

- FSQ propose a new timeframe of four months which from the publication of the Commission of Inquiry's final report on 13 December 2023 would be 13 April 2023.
- This new timeframe is expected to allow sufficient time for FSQ to finalise the updated procedure, including Biology Manager review and approval, and implement the recommendation.

## APPROVALS

<b>Endorsed by</b>	Jess Wellard, A/Chief Operations Officer
<b>Signature</b>	[REDACTED]
<b>Date</b>	27 March 2023

<b>Approved by</b>	Professor Linzi Wilson-Wilde, Chief Executive Officer
<b>Signature</b>	[REDACTED]
<b>Date</b>	27.03.23



# Commission of Inquiry Recommendation Implementation

Forensic Science Queensland

## RECOMMENDATION CLOSURE REPORT -

### Recommendation 2

<b>RECOMMENDATION WORDING</b>	The QPS and Queensland Health should, within three months, agree on the information QPS holds that is necessary for case managing scientists to have to provide sufficient case context for the purpose of appropriate case management.		
<b>THEME</b>	Workflow change		
<b>FSQ LEAD</b>	Natasha Mitchell, Manager, Forensic Biology		
<b>REPORT PREPARED BY</b>	Hannah Jarman, Executive Advisor, Office of the CEO	<b>DATE REPORT PREPARED</b>	20 March 2023

### SUMMARY

- On 7 February 2023 Assistant Commissioner Brian Codd formally advised Professor Linzi Wilson-Wilde that the Queensland Police Service (QPS) are agreeable for Forensic Biology Case Managers to be given additional access to the Forensic Register to view the following additional case information:
  - all exhibit records
  - examination summaries
  - forensic results
  - case management record.
- On 14 March 2023 Professor Wilson-Wilde requested clarification that Forensic Biology Case Managers would have access to:
  - Summary of case circumstances, including all allegations and sequence of events
  - Suspect and complainant names
  - Investigating Officers name
  - Lead QPS Scientific Officers name
  - Full list of all crime scene and reference exhibits collected
  - Description and picture of item
  - Details of exhibits
  - The owner/wearer of the item
  - Location item was collected (for example was it taken from the person or found in the wash)
  - Whether the item been washed
  - Information regarding activities pre and post alleged event which may interfere with examinations (for example were underwear from complainant work pre and post allegation or just pre-event)
  - Specific information regarding possible DNA transfer (for example suspect grabbed left lapel of shirt or underwear pulled to one side using fingers, so we determine where best to target DNA sampling)

- Details of other forensic tests that may have been conducted on the item, such as fingerprinting, prior to submission
- Details of any further analysis or sampling to be performed by other forensic discipline, so that sequencing of evidence collection is appropriate.
- On 17 March 2023, Assistant Commissioner Codd formally advised that the provision of further access to the Forensic Register (FR) would satisfy the information requirements specified by Professor Wilson-Wilde.
- Further correspondence was exchanged between the QPS and Forensic Science Queensland (FSQ) on 20 and 22 March 2023 to confirm these arrangements.

## DELIVERABLES

MILESTONE	DATE COMPLETED	COMMENTS
FSQ and QPS in agreement on granting access to Forensic Biology Case Managers for case information within the FR, and the specifics of this information.	Agreement was reached on 14 March 2023	Access updates still to be actioned by the FR software provider, BDNA, in order to give effect to Recommendation 3.


## EXPENSES


As Recommendation 2 relates to an agreement between parties, no expenses were incurred during the implementation of this recommendation, other than those absorbed by business-as-usual activities.

## LESSONS LEARNED/NEXT STEPS

- Access to the information required and listed above will now be progress as provided under Recommendation 3.

## APPROVALS

<b>Endorsed by</b>	Jess Wellard, A/Chief Operations Officer
<b>Signature</b>	
<b>Date</b>	29 March 2023

<b>Approved by</b>	Professor Linzi Wilson-Wilde, Chief Executive Officer
<b>Signature</b>	
<b>Date</b>	27.03.23



Queensland Health



# Commission of Inquiry Recommendation Implementation

Forensic Science Queensland

## RECOMMENDATION CLOSURE REPORT - Recommendation 107

<b>RECOMMENDATION WORDING</b>	The laboratory must cease all bone casework until a validation study into the appropriate cleaning process of bone sampling equipment is undertaken to determine a suitable procedure. This validation should be conducted as a matter of priority.		
<b>THEME</b>	Bone		
<b>FSQ LEAD</b>	Natasha Mitchell, Manager, Forensic Biology		
<b>REPORT PREPARED BY</b>	Hannah Jarman, Executive Advisor, Office of the CEO	<b>DATE REPORT PREPARED</b>	21 March 2023

### SUMMARY

- Recommendation 107 from the Commission of Inquiry addresses contamination identified in bone samples. While the exact cause of the contamination issues remains unknown, the likely site of the contamination is the bone laboratory in Block 6.
- The final Commission of Inquiry report recommended that all bone samples requiring DNA profiling be sent to an external facility for sampling and profiling until a new, clean laboratory space is available.
- In anticipation of this recommendation being made, Forensic & Scientific Services ceased the processing of bone samples on 9 December 2022.
- Validation of bone processing will be addressed through the actioning of recommendation 109 *The laboratory must conduct a project to determine the optimal method for DNA extraction from bone samples and validate and implement that method for use in bone case work.* Therefore, it is appropriate to close recommendation 107.

### PATH FORWARD

- Forensic Science Queensland (FSQ) has determined processing of bone samples cannot continue unless a fit for purpose laboratory space is available.
- On 20 March 2023, FSQ established an external provider agreement with the Australian Federal Police (AFP) to process Queensland bone samples until a suitable FSQ laboratory space is available. The AFP has capacity to undertake bone analysis requests for FSQ by using the capabilities of the National DNA Program for Unidentified and Missing Persons.
- There will be no cost associated with this testing due to Commonwealth funding.
- FSQ is currently working with Health Capital Division to work through options for the FSQ facility and the Board will be updated in due course regarding the options and timeframes.



## DELIVERABLES

MILESTONE	DATE COMPLETED	COMMENTS
FSQ Forensic Biology cease bone sampling	9 December 2022	All processing of bones received from this date was ceased until a suitable laboratory is identified and the process is validated

## EXPENSES

- FSQ has finalised an agreement with the AFP to process the initial urgent bone samples without charge to FSQ or the Queensland Police Service.
- AFP have advised they will review the situation should subsequent requests be forthcoming.

## APPROVALS

<b>Endorsed by</b>	Jess Wellard, A/Chief Operations Officer
<b>Signature</b>	[REDACTED]
<b>Date</b>	27 March 2023

<b>Approved by</b>	Professor Linzi Wilson-Wilde, Chief Executive Officer
<b>Signature</b>	[REDACTED]
<b>Date</b>	27-3-23

# Commission of Inquiry Recommendation Implementation

Forensic Science Queensland

## RECOMMENDATION CLOSURE REPORT -

### Recommendation 16

<b>RECOMMENDATION WORDING</b>	Until such time as a full and appropriate validation of the limit of detection of Quant Trio and Quant Studio 5 has been completed, the laboratory should not report any sample (P1, P2 or P3) as "No DNA detected" and all samples should be processed as though their quantitation result exceeded 0.001 ng/ $\mu$ L.		
<b>THEME</b>	Workflow change		
<b>FSQ LEAD</b>	Natasha Mitchell, Manager, Forensic Biology		
<b>REPORT PREPARED BY</b>	Hannah Jarman, Executive Advisor, Office of the CEO	<b>DATE REPORT PREPARED</b>	21 March 2023

### SUMMARY

- Forensic Science Queensland (FSQ) ceased reporting samples externally as "No DNA detected" on approximately 18 October 2022 for samples from Major Crime ("P2 samples") and Priority 3 cases ("P3 samples"). A similar approach had been adopted on approximately 06 June 2022 for Priority 1 cases ("P1 samples"), with P1 samples with quantitation results below 0.0088ng/ $\mu$ L continuing processing to a concentration step.
- Between approximately 18 October 2022 and 26 February 2023, FSQ held P2 and P3 samples with quantitation results less than or equal to 0.001 ng/ $\mu$ L on a "No DNA Detected" worklist in the Forensic Register (FR). These results were not reported to the Queensland Police Service as "No DNA Detected", however no further analysis of these samples was conducted.
- During this time, due to the workflow changes some samples were inadvertently transitioned from the "No DNA Detected" worklist to continue processing, on an adhoc basis.
- Work to recommence the processing of the samples on this worklist recommended in January 2023. Due to the number of samples on this worklist, assistance from BDNA was required to bulk-transition the samples to an active worklist. The remaining samples held on this list were bulk transferred to recommence processing on 1 March 2023.
- On 1 March 2023, FSQ also introduced an automated workflow so that all samples held on this worklist went on for further processing at quantitation:
  - P1 and P2 samples with a quantitation result less than 0.0088 ng/ $\mu$ L transition to the "On Hold Microcon Review" worklist in the FR. The case manager then assesses the result and then orders a concentration ('Microcon') of the sample to either full (15  $\mu$ L or less) or 35  $\mu$ L. Samples then proceed to amplification (Microcon to full) or re-quantitation and amplification (Microcon to 35  $\mu$ L).

- P3 samples progress directly to amplification without concentration, which is considered appropriate because of the nature of the samples and a risk-based approach.
- This automated workflow also applies to all future samples which are received at FSQ.
- FSQ is still to validate a quantitation limit of detection (LOD). Only once a LOD has been validated will any further consideration be given to whether there is an appropriate threshold at which to stop sample processing past quantitation.
- The implemented process will remove the risk of significant missed opportunity of case results.

## DELIVERABLES

MILESTONE	DATE COMPLETED	COMMENTS
FSQ ceased reporting P1 samples as "No DNA detected" and continued concentrating and processing samples with quantitation results at or below 0.001ng/ $\mu$ L.	6 June 2022	
FSQ ceased reporting P2 and 3 samples as "No DNA detected".	18 October 2022	P2 and P3 samples with a quantitation result at or below 0.00ng/ $\mu$ L were held, unreported, on the FR "No DNA Detected" worklist.
Automated workflow introduced so that all samples went on for further processing at quantitation and recommenced processing of samples that were held on the FR "No DNA Detected" worklist.	1 March 2023	

## EXPENSES

The delivery of this recommendation required BDNA programming time. Although BDNA offered to provide the required changes to worklist free of charge, due to ongoing contractual negotiations with BDNA it has been decided that the work should be fully costed and paid for under the QPS contract with BDNA.

## LESSONS LEARNED/NEXT STEPS

- FSQ is validating a quantitation limit of detection (LOD) as a priority.
- Use of an appropriately validated LOD as a threshold for further processing past quantitation is consistent with best practice and would reduce workload pressure on FSQ without compromising service delivery or creating a risk of loss of probative case information.

## APPROVALS

<b>Endorsed by</b>	Jess Wellard, A/Chief Operations Officer
<b>Signature</b>	

Date	27 March 2023
Approved by	Professor Linzi Wilson-Wilde, Chief Executive Officer
Signature	[REDACTED]
Date	27-03-23

# Commission of Inquiry Recommendation Implementation

Forensic Science Queensland

## RECOMMENDATION CLOSURE REPORT - Recommendation 7

<b>RECOMMENDATION WORDING</b>	The laboratory should not use any threshold above the limit of detection in Priority 1 and Major Crime cases.		
<b>THEME</b>	Workflow change		
<b>FSQ LEAD</b>	Natasha Mitchell, Manager, Forensic Biology		
<b>REPORT PREPARED BY</b>	Hannah Jarman, Executive Advisor, Office of the CEO	<b>DATE REPORT PREPARED</b>	21 March 2023

### SUMMARY

- Forensic & Scientific Services ceased using any quantitation threshold that stopped the further processing of samples on approximately 06 June 2022 for Priority 1 cases ("P1 samples").
- Steps were taken by Forensic Science Queensland (FSQ) on 1 March 2023 to ensure the timely progression of cases which fall below previous quantitation thresholds that fall within both the Major Crime ("P2 samples") and Priority 3 cases ("P3 samples"). However, these samples had not been formally reported as 'No DNA Detected' since 18 October 2022 (see brief regarding recommendation 16).
- Forensic Biology is in the process of validating a quantitation limit of detection (LOD). Once an LOD has been validated consideration will be given to implementing this as a threshold to stop samples processing past quantitation.
- Any threshold greater than the LOD will not be used by FSQ for P1 and P2 samples.

### DELIVERABLES

MILESTONE	DATE COMPLETED	COMMENTS
Forensic Biology ceased using quantitation threshold that stopped the further processing of P1 samples.	06 June 2022	
P2 and P3 samples with quantitation results less or equal to 0.001 ng/ $\mu$ L held on FR "No DNA Detected" worklist.	18 October 2022	Samples on this list resumed processing on 1 March 2023.

Forensic Biology implemented automated workflow changes that allow the continuation of P2 and P3 samples that previously fell below the quantitation threshold.	1 March 2023	No threshold in use across all case categories.
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## EXPENSES

Recommendation 7 requires FSQ to not adopt a threshold higher than the LOD in determining workflow. As this is a requirement not to do something, no expenses were incurred during the implementation of this recommendation. Some expenses were incurred in relation to the automated workflow changes; however these have been reported against recommendation 16.

## LESSONS LEARNED/NEXT STEPS

- FSQ is in the process of validating a quantitation LOD as a priority.
- Use of an appropriately validated LOD as a threshold for further processing past quantitation is consistent with best practice and would reduce workload pressure on FSQ without compromising service delivery or creating a risk of loss of probative case information.

## APPROVALS

<b>Endorsed by</b>	Jess Wellard, A/Chief Operations Officer
<b>Signature</b>	[Redacted]
<b>Date</b>	27 March 2023

<b>Approved by</b>	Professor Linzi Wilson-Wilde, Chief Executive Officer
<b>Signature</b>	[Redacted]
<b>Date</b>	27-03-23



# Commission of Inquiry Recommendation Implementation

Forensic Science Queensland

## RECOMMENDATION CLOSURE REPORT - Recommendation 18

<b>RECOMMENDATION WORDING</b>	The laboratory should promptly perform testing to identify the Model Maker parameters for the Proflex instruments, initially in a pooled manner, to compare to the 9700 instruments and adopt into STRmix, in accordance with the report of Dr Duncan Taylor. Until that testing has been performed, the laboratory should not report any result for a sample that has been processed using the Proflex machines.		
<b>THEME</b>	Validation		
<b>FSQ LEAD</b>	Natasha Mitchell, Manager, Forensic Biology		
<b>REPORT PREPARED BY</b>	Hannah Jarman, Executive Advisor, Office of the CEO	<b>DATE REPORT PREPARED</b>	20 March 2023

### SUMMARY

- On 16 October 2022, Forensic Biology released the “Model Maker Report in Response to the COI” (“the Model Maker Report”) detailing testing performed to identify the Model Maker parameters for the Proflex instruments.
- This testing was performed in a pooled manner and compared to the 9700 instruments in accordance with the report of Dr Duncan Taylor.
- On 17 October 2022, Dr Taylor was presented with the Model Maker Report and confirmed that the testing carried out provided information that the parameters were appropriate for use. With Dr Taylor’s endorsement, the parameters were implemented into STRmix.
- It should be noted that FSQ is currently undertaking work regarding recommendation 19, to reduce the elution volumes of DNA extractions. Once this work is completed further work on the Model Maker parameters will be required.

### DELIVERABLES

MILESTONE	DATE COMPLETED	COMMENTS
Model Maker parameters for the Proflex instruments adopted into STRmix	17 October 2022	Recommendation implemented prior to release of Commission of Inquiry report



## EXPENSES

No expenses, other than those absorbed by business-as-usual activities, were incurred during the implementation of this recommendation.

## LESSONS LEARNED/NEXT STEPS

- Further work on the Proflex validation is planned consistent with Recommendation 19.

## APPROVALS

<b>Endorsed by</b>	Jess Wellard, A/Chief Operations Officer
<b>Signature</b>	[REDACTED]
<b>Date</b>	27 March 2023

<b>Approved by</b>	Professor Linzi Wilson-Wilde, Chief Executive Officer
<b>Signature</b>	[REDACTED]
<b>Date</b>	27.03.23