STATEMENT OF PAUL CSOBAN

I, Paul Csoban, **General Manager Operations Vic,** of [redacted], [redacted], do solemnly and sincerely declare that:

1. I have been issued with a requirement to provide a written statement by Commissioner Sofronoff QC, Notice 2022/158.

Background

Question 1 – List your qualifications. In your answer include the instruction you obtained the qualification from and the year you obtained it.

2. I hold the following qualifications:
   a) 1997, Master of Business Administration, Monash University.
   b) 1997, George Milsom Memorial Award, Services to Medical Science.
   c) 1994, Graduate Diploma of Business (Health Administration), Monash University.
   d) 1979, Bachelor of Applied Science (Medical Laboratory Science), Royal Melbourne Institute of Technology.
   e) 1977, Diploma of Applied Science (Medical Technology), Royal Melbourne Institute of Technology.

Question 2 – In brief, describe your work history. Attach a current CV.

3. I currently work within the disability sector. I am currently the General Manager of Operations in Victoria for [redacted].
4. I have worked for many years as a Medical Laboratory Scientist in Pathology. I trained in all major specialties but specialised in Haematology, Blood Bank and Coagulation.
5. I progressed towards management of increasing size of Pathology Services, with some work overseas in India, Malaysia, Singapore. I worked to set up and ran pathology companies and laboratories in these countries.
6. I have worked in the not for profit sector in various organisations in senior executive roles.

[redacted] [redacted]

Paul Csoban Witness

7. I worked for Forensic and Scientific Services from January 2016 to July 2018. I was successful in applying for this position through recruitment firm.
8. A copy of my CV is attached as exhibit **PC-1 – Csoban Paul CV Sep 2022.**

Question 3 – Describe any previous experience with forensic DNA testing or analysis, if any.

9. I have no previous experience in forensic DNA.
10. I did have various molecular biology units as part of my management responsibilities in previous roles.

Question 4 – Describe your position as Executive Director with QHFSS. Include in your answer the date you commenced and ceased in the position, who you reported to and who reported to you.

11. I worked as Executive Director with QHFSS from January 2016 to July 2018.
12. In this role I managed all units of Forensic and Scientific Services and I was responsible for 400 staff.
13. The people who reported directly to me were:
    a) Cathie Allen – Manager Police Services Stream (Forensic DNA and Forensic Chemistry).
    b) Sandy Sinclair – Executive Assistant.
    c) Deb Whelan - Manager Forensic Pathology (Autopsy) and Forensic Toxicology.
    d) Dr Charles Naylor – Medical Director Forensic Pathology (Autopsy).
    e) Dr Lee Smythe – Manager Public Healthy Units.
    f) Claire Dolereit – Manager Buildings, Infrastructure and Maintenance.
    g) Dr Adam Griffin – Director Clinical Forensic Medicine Unit.
    h) Helen Gregg – Manager Quality.
14. The people I reported to (in sequence) were:
    a) General Manager Strategy, Community and Scientific Support - Helen Little and Sharon Kelly.
    b) CEO – Gary Uhlman.

c) CEO – Dr Peter Bristow.

d) General Manager Strategy, Community and Scientific Support - Michel Lok.

Project 184

Question 5 – In 2017, Project 184. Commenced. A copy of Project 184 report is attached. The Project assessed post-microcon results obtained from samples with a quantitation value between 0.001 ng/uL and 0.0088ng/uL.

a. What involvement, if any, did you have with Project 184? Explain your involvement in detail, with reference to material and information you had access to in relation to the project, and any meetings, discussions or correspondence you were involved in regarding the project.

15. I cannot recall being given any detailed documentation around Project 184.

16. I cannot recall any meetings solely devoted to Project 184 or detailed documentation on this matter

17. I had many scheduled meetings with Cathie Allen where we discussed numerous matters relating to her area of accountability and do recall references to a project around assessment of kits being used and processes. My recollection was that this was a trial of using different processes to assess results and the discussions were of routine nature in terms of advising me of the activities of the unit. It is very common in all facets of laboratory work to assess different techniques or outcomes by way of evaluation.

18. I do not have any records of the meetings referred to in paragraph [17].

b. Were you ever consulted in relation to the staff feedback that had been provided regarding Project 184?

19. I cannot recollect ever being consulted on any staff feedback. I definitely was not aware on any degree of disquiet around either the kits or methodology.

Options Paper

Question 6 – In January 2018, a document titled A review of the automatic concentration of DNA extracts using Microcon Centrifugal Filter Devices: Options for QPS

consideration (Options Paper) was presented to the QPS. Attached is a copy of the Options Paper.

a. When and how you first became aware of the Options Paper? Explain your involvement in detail, with reference to material and information you had access to in relation to the Options Paper, and any meetings, discussions or correspondence you were involved in regarding the Options Paper.

20. I cannot recall the exact time when the Options paper was discussed or when I was given a copy.

21. I do recollect mention of it during my routine meetings with Cathie Allen.

22. At some stage prior to the meeting with QPS I did receive a copy of the paper.

23. I recollect discussing the contents with Cathie Allen prior to the meeting with QPS.

24. The discussion with Cathie Allen was around briefing me on the specifics of the paper and answering my questions on the contents and explan**ation of the options presented.**

25. I do not have any records of the meetings referred to in paragraphs [20]-[24].

26. A copy of the final Options Paper is attached as exhibit **PC-2 – A review of the automatic concentration of DNA extracts using Microcon Centrifugal Filter Devices: Options for QPS consideration (Options Paper).**

b. Did you have any involvement in the decision to present the Options Paper to QPS?

27. Yes, I approved the decision to present the options to QPS. I approved the final presentation of the paper based on:

a) General and regular feedback from several different sources around the requirement of faster TAT (turnaround times) and prioritisation of testing and reporting – these sources being QPS on occasions at regular meetings held with Superintendent Brian Huxley, reporters' queries and in some instances lawyers.

b) I was personally required on occasions to respond to ministerial questions around the timeliness of results in response to QPS statements, adverse media and other queries from the community. I believed the Options paper was in response to assisting QPS and provide a better more efficient service..

Paul Csoban Witness

c. If you were not involved in the decision to finalise Project 184 and prepare the Options Paper, or consideration leading to that decision, what is your understanding, and explanation for the following:

i. who made that decision;

ii. when the decision was made;

iii. the reasons for the decision; iv. the material or information on which the decision was made.

iv. the material or information on which the decision was made.

28. I was involved, as outlined above.

d. What was your understanding of the options that were presented to the QPS in the Options Paper?

29. My understanding of the options were as follows:

a) Prior to presentation of the options paper, all Priority 2 (Major Crimes) samples underwent a concertation step routinely (auto microcon process). This was a further step to the original quantification using PP21 kit. As an additional step it involved more time and scientists and testing resources. Option 1 was to continue with this process.

b) Option 2 was to cease using the concentration of samples routinely given the low yields for useful results and only perform the concentration steps if requested either by QPS or scientists. All samples would be retained to enable this to be performed at any later stage as requested or as required.

e. What was your understanding of the information/evidence/DNA profiles/DNA matches that may be missed out on if QPS chose Option 2?

30. It was my understanding that in a limited number of samples the DNA profile that would have been obtained only with the concentration of the sample would not be available to match up with known offenders in the National Criminal Investigation DNA Database or to able to be uploaded as a cold link to possible match other profiles detected during the casework of the incident in either a single source or mixed source situations.

f. What was the impetus / rationale for Option 2?

Paul Csoban Witness

31. The impetus for the Option 2 was the desire to improve the timeliness of reporting to QPS, prioritise the saving of scientist time and resources allowing increased focus on Priority 1 samples. There appeared to be only a small proportion of samples where additional information would be gained and even in these situations, the samples were available for rework if requested by QPS – e.g. in the absence of other evidentiary material.

g. What was your understanding of the 1.45% figure and what it represented?

32. As I understood, this was the potential figure where new information would be available for uploading to NCIDD for future reference. This information would not be available in NCIDD if the concentration step was not performed.

Meeting on 2 February 2018

Question 7 – A meeting between Cathie Allen, Superintendent Dale Frieberg, Acting Inspector Ewen Taylor, Acting Inspector Troy O'Malley and yourself occurred on 2 February 2018. Attached is an email sent to you on 2 February 2018 to refresh your memory. What had you been told about the Options Paper prior to the meeting? Explain in detail all discussions that took place in preparation for the meeting, and who they were with and what representations were made by each person.

33. As previously documented in my statement I was fully briefed on the Options Paper by Cathie Allen prior to the meeting. The scientific rationale and processes were fully explained to me and there was confidence expressed that the figures and analysis was correct and agreed to by Justin as co-author.

34. There was a detailed discussion to ensure I had good understating of the paper and contents. It was made abundantly clear and fully agreed that there would be no preferred option put forward by FSS nor favoured by FSS and it was entirely at the discretion and choice of QPS as to the options to be endorsed by them.

35. I do not have any records of the meetings referred to in paragraphs [33]-[34].

Question 8 – Explain your role in the discussions during the meeting.

36. My role was to observe the discussions, answer any non-science related questions (as Cathie was the expert in this field) and to note any decisions made or take any queries on board to ensure QPS were fully satisfied with the briefing and contents of the paper. Since Dale was my equivalent in QPS it was my considered opinion that it was respectful to show FSS commitment to assisting QPS in any manner that they would see as appropriate. Further it was to lend support to one of my staff and assist as required

37. I do not have any records of the meetings referred to in paragraph [36].

Implementation

Question 9 – After the decision was made by QPS, did you consult anyone at a higher level about this outcome? If so, explain any consultation in detail. If not, explain why not.

38. I believe the outcome would have been mentioned at one of my frequent routine meetings with the CEO at the time (Gary Uhlmann) but cannot fully attest to the time or the actual occurrence. I say this only because I briefed my manager on all pertinent matters at all times.

39. I did not believe consultation in the form of seeking permission was appropriate given that it was purely a matter and decision for QPS. Added to this was the fact that on a number of occasions, it was expressed anecdotally and to me personally that the samples and evidence were the property of QPS for them to determine the testing and procedures.

Question 10 – To your knowledge, were any concerns raised by scientists at QHFSS after the process change? If so, explain these in detail.

40. To my knowledge no concerns were raised by staff at FSS and none were ever expressed to me. I would further stipulate that I would expect that if there were concerns raised and not satisfactorily addressed by line managers, all staff had the capacity to

escalate to me. This happened a number of times (not in reference to this matter) so it was a well-accepted process.

41. Further all staff were aware that if they were ever concerned with any aspect of processes or work, they had the opportunity to raise an OQI (Opportunity for Quality Improvement). This is a formal notification and would require to be addressed. This could be raised with the Quality Manager, or me or any senior staff. All these must be brought to my attention at meetings with the Quality Manager. This never occurred in this matter.

All the facts and circumstances declared in my statement, are within my own knowledge and belief, except for the facts and circumstances declared from information only, and where applicable, my means of knowledge and sources of information are contained in this statement.

I make this solemn declaration conscientiously believing the same to be true and by virtue of the provisions of the *Oaths Act 1867.*

TAKEN AND DECLARED before me at Sunbury in the State of Victoria this 15th day of September 2022

[redacted] ..... [redacted] .....

Paul Csoban Witness

A JUSTICE OF THE PEACE FOR VICTORIA
Reg. No. 10670
Arthur Lawrence Rickard
C/- Honorary Justice Office
L18/121 Exhibition St, Melbourne 3000

JUSTICE OF THE PEACE J.P. FOR VICTORIA

[redacted] ..... [redacted] .....

Paul Csoban Witness

Exhibits Index – Paul Csoban Statement

Question	Exhibit	Document Title
2	PC-1	Csoban Paul CV Sep 2022
6	PC-2	A review of the automatic concentration of DNA extracts using Microcon Centrifugal Filter Devices: Options for QPS consideration (Options Paper).

[redacted]

A JUSTICE OF THE PEACE FOR VICTORIA
Reg. No. 10670
Arthur Lawrence Rickard
C/- Honorary Justice Office
L18/121 Exhibition St, Melbourne 3000

JUSTICE OF THE PEACE J.P. FOR VICTORIA

PAUL CSOBAN

Address [redacted]

Mobile

Email

Education/Awards

1997	**Master of Business Administration** Monash University
1997	**George Milsom Memorial Award** Services to Medical Science
1994	**Graduate Diploma of Business** (Health Administration) Monash University
1979	**Bachelor of Applied Science** (Medical Laboratory Science) Royal Melbourne Institute of Technology

Professional

Member and Director of several Committees, Boards and Governing Bodies

- Director - Diatech Pty Ltd
  - Board directing commercialization of Cooperative Research Centre (CRC) National Diagnostics projects with a number of commercial, academic and research organizations
- Director – All Pathology companies of Symbion Health Pty Ltd
- Executive Committee AAPP (Australian Association of Pathology Practices Inc.)
- National Board of Governors – Australian Meals on Wheels Association
- Various other Director Positions

Competencies

Proficient in the Microsoft Office suite of programs

Knowledge of various IT programs and accounting packages

Trained in PMBOK and Prince 2 Project Management methodology

Several courses of negotiation and media training

EXECUTIVE SUMMARY

A strategic management executive with extensive experience in the health and community services sector in Government, corporate and NFP environments.

Track record of success in formulating business strategies and marketing plans to deliver exceptional service standards and exceed revenue and profit targets.

Demonstrated success in developing and implementing a variety of projects.

Extensive experience in Government funding applications, reporting and program acquittals and program redesign.

Demonstrated ability to provide strong leadership and galvanise teams to deliver superior results within tight time frames and limited budgets in highly regulated and complex markets.

Strong communication and networking skills with proven ability to interact with top levels of government, CEO's, clinicians and staff at all levels

Professional Experience

Nov 2018 – [redacted]

General Manager Operations Vic

Responsible to Executive Director Operations

SCOPE OF RESPONSIBILITIES

- 70 Supported Independent Living Houses – Disability sector – Contract from Vic Department of Families, Fairness and Housing
- Approx 900 staff, 300 residents in home settings.
- Further 10 units (approx.) TAC funded disability residential clients
- External provision of services to approx. 15 external clients in Supported Disability accommodation settings

ACHIEVEMENTS:

- Successfully completed operations part of transfer of initial 62 DFFH houses into [redacted]
- Successfully completed operations part of further transfer of 9 DFFH houses into [redacted] .
- Developed intake procedure for new clients in externa residential settings.
- Successfully managed the transition of DFFH houses from In kind (block funding) to NDIS funding parameters.

Sep 2018 – **Executive Director –** [redacted]

SCOPE OF RESPONSIBILITIES

Executive Director – [redacted]
Large GP Practice

- Resolve current HR and operation issues
- Review, and rewrite documentation in preparation for Accreditation.
- Develop business plans for expansion

Jan 2016 – Jul 2018 **Forensic and Scientific Services QLD (FSS).**

Executive Director

Responsible to General Manager Strategy, Community and Scientific Support.

SCOPE OF RESPONSIBILITIES:

- $70m budget – 400 Staff
- Management of facilities over 14 hectare security site
- Manage all Units of FSS comprising:
  - Clinical Forensic Medicine Unit
  - Public Health Unit
    - Organic Chemistry
    - Inorganic Chemistry
    - Public Health Virology
    - Public Health Bacteriology
  - Coronial stream
    - Forensic Pathology
    - Bereavement Counselling
    - Forensic Toxicology
  - Police Services Stream
    - Forensic DNA
    - Forensic Chemistry
  - Research, Training Support, Liaison Units

ACHIEVEMENTS:

- Headed Project Team to successfully implement Forensic Register (Laboratory Information System developed by Queensland Police Services (QPS)) to replace current LIS.
- Turnaround from $2.5m deficit in FY16 to with financial results on target and exceeding budget expectations in subsequent years.
- Maintained FTE with increased efficiencies demonstrated to service increased workloads across the units.
- Successfully negotiated several new MOU's and SLA's with government agencies
- Board Member of Steering Committee for HSQ Laboratory Information System Program ($60m Project), and member of several Qld government and National Committees
- Securing funding and oversaw several successful major capital projects e.g. $9m major refurb of the quarantine chemistry laboratories, CCTV campus wide replacement,
- Improved results for the *Working for QLD Staff Survey* in 2017 from previous results for 2016.
- Recognition of FSS achievements with several awards and accolades from all stakeholders (including Premier's award) for innovation and service provision.
- Initiated and successfully completed the planning and implementation of a project group involving Coroners, Police, Justice Dept and FSS for the review and development of a State wide sustainable Forensic Autopsy Service**.**

Jun 2014 – Nov 2015

CANCER COUNCIL QUEENSLAND.
Head of Programs

Responsible to CEO

SCOPE OF RESPONSIBILITIES:

- $14m budget – 60 Staff
- Manage all aspects of Cancer Prevention, Support, Information Programs and activities in metropolitan and regional centres comprising:
  - 13 11 20 Telephone information service
  - PalAssist (24/7 Palliative Care Helpline)
  - Practical Support – financial, legal, transport assistance – Wig and Turban Service, Breast Prostheses
  - Support Services – Peer support groups, various Cancer Support Services
  - Counselling Service – Psychological Support and Nurse Counsellors
  - 6 Accommodation Lodges metro and regional
  - Health Professional Education and Engagement Team
  - 8 Regional Offices and Volunteer Services
  - Public Health – Cancer Prevention Programs

ACHIEVEMENTS:

- Restructured Programs Team resulting in increased efficiency with less FTE
- Successful in 3 Government tenders with value of $3.4m including Greenfield setup of 24/7 Palliative Care Helpline – all deliverables met on time and to specifications.
- Implemented new QA and process systems in 13 11 20 information service – became lead state for all Cancer Councils to assist them achieve similar results.
- Developed and instituted several new support programs – many utilising increased involvement of volunteer support.
- Reviewed and instituted new model of care (Stepped Model) for cancer patient journey to address and improve current gaps in services.
- Worked with staff to review and amend Cancer Counselling structure and operational and financial efficiency – resulted in doubling of Medicare and Private Insurance billings.
- Negotiated contracts with 2 Employee Assistance Providers for referrals to Counselling Service
- Increased Health Professional Network from approx. 500 to 2,400
- Appointed as member of Health Department and Primary Healthcare Network Advisory Committees

Jun 2012 – April 2014

PALLIATIVE CARE AUSTRALIA INC.
Chief Operating Officer

Responsible to CEO and PCA Board

SCOPE OF RESPONSIBILITIES:

- Manage contract compliance and interface issues with PCA's key funders and suppliers
- Manage all governance arrangements including the Board (Executive), and the National Policy Advisory Group in accordance with the Constitution and the Memorandum of Understanding with PCA Member Organisations
- Manage secretariat arrangements for the PCA committees
- Undertake and be responsible for the development and implementation of appropriate human resource management policies and practices
- Oversee and be responsible for the preparation of operational policies and procedures
- Represent the interests of PCA through effective liaison with Australian Government Departments and other stakeholders as agreed
- Responsible for the effective management and implementation of PCA programs, including their budget management
- Responsible for the ongoing review and development of PCA's strategic and business plans, and subsequent implementation and monitoring of results
- Develop funding proposals and submissions for new PCA programs
- Contribute to PCA policy development process and to ensuring the alignment of PCA policies and programs
- Contribute to the development of communication strategies, particularly in relation to program and member activities.
- Ensure full compliance with all regulatory requirements

ACHIEVEMENTS:

- Reviewed and completely rewrote policy manuals – Governance, Finance and Administration, HR and OHS Management systems ensuring full compliance with current management best practice and legislative requirements.
- Took over responsibility for National Standards Assessment Program (NSAP) to ensure full compliance, efficiency and acquittal of funds.
- Headed up and responsible for several projects e.g. Review of Palliative Care Standards, National Rebranding
- Written several submissions for extra government funding – successfully won 3 year ($5m) funded project
- Worked with staff to review and amend Organisational structure to increase efficiency and outcomes.

Sep 2010 – May 2012

CARLTON FAMILY MEDICAL PTY LTD
MEDICAL LASERS Pty Ltd – MELBOURNE METROPOLITAN MEDICAL CENTRES

SCOPE OF RESPONSIBILITIES:

- Executive Director and part owner of group of medical centres
- Greenfield Site and commissioning of new medical Centre and incorporating into existing Clinical Centres

  - *Carlton Family Medical*
  - *Medical Lasers Melbourne Pty Ltd*
  - *Metropolitan Medical Centres Pty Ltd*

Jan 2009 - Sep 2010

ROYAL DISTRICT NURSING SERVICE (SA)
Group Manager Commercial Enterprises

Responsible to CEO

SCOPE OF RESPONSIBILITIES:

- Member of Executive Leadership Team
- Responsible for the performance and growth of the Commercial Enterprises Group of RDNS comprising Marketing, Focus Healthcare (Nursing, Home Services and Allied Health), Education and Training Unit, Fundraising Services. RDNS Direct (call, referral, health information centre, virtual hospitals – telehealth centre)
- Responsible for expansion of RDNS SA interstate commencing with QLD
- 450 Staff
- Responsible for acquittal and reporting of Federal, State and Local fee for service revenue grants
- Responsible for sourcing and increasing alternate commercial and fee for service revenue

ACHIEVEMENTS:

Focus Healthcare

- Complete restructure of business
- Increased nursing productivity from 50% to **65%**
- Increased profitability of unit by approx **50%**
- Headed up project to investigate and successfully implement CRM Project (Customer Relationship Management) system
- Headed up Project to re engineer Patient Flow Pathway from referral through treatment to discharge
- Successful set up of operations in QLD

Fundraising

- Restructure of unit and reduction of staff
- Reviewed and implemented more efficient fundraising and marketing activities
- Increased profitability by **50%** to approx **$550k**
- Increased ROI from **47%** to **51%**

Education and Training

- Increased scope of service provision
- Won several large national government tenders
- Increased profitability by approx **400%** to approx **$620k**
- Established offerings interstate – QLD, NSW, NT

2008 – 2009 **AUSTRALIAN RED CROSS**
Executive Director - ACT

Responsible to Board Chairman ACT Division and National CEO

SCOPE OF RESPONSIBILITIES:

- Member of National Management Team
- 50 Staff, 1400 Volunteers
- 23 Service Delivery Programs
- Responsible for managing and meeting budget allocation.
- Responsible for acquittal and reporting of Federal, State and Local revenue grants
- Public face of Red Cross in the ACT – representing the organisation to government, media, peak bodies, vice-regal functions and corporate sector.
- Responsible for sourcing alternate revenue through corporate fundraising, government grants tendering,

ACHIEVEMENTS:

- Achieved significant budget turnaround to meet budget 2nd half FY08
- Much Improved workplace morale and culture – feedback from staff
- Improved communication both on local level and with National colleagues
- Reestablished positive relationship with ACT Board and National executive colleagues
- Established contacts with Government, diplomatic missions, and corporate leaders
- Lobbied State Government and successfully negotiated funding for various programs e.g. subsidised meals for Ainslie Village socially disadvantaged residents, breakfast in schools program, meals for homeless, etc.
- Developed solid FY09 Budget
- FY09 Q1&2 – Significantly above budget for net contribution position

2007 **Medical Centres (Shooal Pty Ltd)**
Consultancy

Responsible to Medical Director and Owner

SCOPE OF RESPONSIBILITIES

- Fixed term project to restructure and reinvigorate large Queensland medical provider with 4 clinics encompassing General Practice, Skin Cancer and Cosmetic Medical Centres

ACHIEVEMENTS:

- Restructured business, formulated financial, strategic and operational plans to enable future performance monitoring
- Developed possible model for franchising structure
- Successfully recruited doctors both nationally and internationally – including liaising with federal and state government to ensure appropriate registrations.

2006 - 2007 **HEALTHSCOPE - PATHOLOGY**

General Manager Pathology – NSW and QLD

Responsible to State Manager and Chief Operating Officer

SCOPE OF RESPONSIBILITIES

- Turnover: approximately $35 million
- 400 staff
- 11 Laboratories
- Responsibility for the day to day operational performance of pathology business units (NSW and QLD)
- NSW - Responsible for the stabilising operations post acquisition and merger and improving financial returns.
- QLD – Responsible for improving financial returns and growing business.

ACHIEVEMENTS:

- NSW - Improved poor standards of service (instituted clinician feedback mechanism), financial performance and poor cost control by restructuring operations teams, and recruiting key operations managers resulting in improved EBITDA approaching budgeted levels.

- Reversed situation of poor growth, to align favorably with market indices.

- QLD - Reversed poor service standards and flagging growth of business by restructuring business. Resultant increased growth – YTD **21% growth** in market growing at 4.5%, Achieved EBITDA ahead of budget.

2000 - 2006 **MAYNE HEALTH - PATHOLOGY**

2004 – 2006 **General Manager Pathology**

Responsible to CEO and Managing Director

SCOPE OF RESPONSIBILITIES:

- Turnover: approximately **$600 million**
- 4000 staff
- 77 Laboratories
- 600 collection centres
- Overall responsibility for the operational performance of the **National Pathology business** units (Vic, NSW, QLD, WA and NT). Responsible for the strategic direction and development of Mayne / Symbion Pathology and achieving required financial returns.

ACHIEVEMENTS:

- Improved EBIT margin by approx **10%** compared with prior year by restructuring corporate personnel, and re focusing State senior management. Best Pathology result in history of Mayne
- Exceeded planned EBIT target by **$4.8M**
- Turned around performances of 2 underperforming States by working with top managers and restructuring and invigorating marketing teams
- Initiated national Standardisation strategy to improve margins further – demonstrated reduction in operating costs
- Completed major 3 year project to design and build a new central laboratory.
    - Lead all major negotiations, including land acquisition, building contracts and government / medical regulations
    - **$30 million project**
    - Achieved on time and on budget

2002- 2004 **State Manager – Queensland (QML)**

Responsible to General Manager, Pathology

SCOPE OF RESPONSIBILITIES

- Turnover: approximately $180 million
- 2,000 staff
- 24 Laboratories
- 174 collection centres

ACHIEVEMENTS:

- Responsible for the successful integration of QML operations into Mayne Health Pathology **post acquisition**

FY2003

- Achieved EBIT margin of approx **26%** from pre acquisition margin of approx 14% by changing organisational culture, restructuring senior and operational management, refocusing marketing team with new manager
- Exceeded first year integration EBIT target by **$4.6M**
- Finalised negotiation of EBA for all QML staff with hand picked management and HR team

FY2004

- Exceeding EBIT plan by **$4.5M**
- Achieved QML growth rate **6.8%** against QLD market growth approx 3.5% - demonstrated results from previous year's actions, changes and leadership.

2000- 2002 **State Manager – WA & NT**

Responsible to General Manager, Pathology.

SCOPE OF RESPONSIBILITIES

- Responsible for the total financial, operational, business and marketing activities of Western Diagnostic Laboratory operations
- Turnover: approximately $54 million
- 600 staff
- 9 Laboratories
- 67 collection centres

ACHIEVEMENTS:

- Reversed poor morale and flagging financial returns resultant from defection of CEO and Medical Director to the opposition
- Achieved EBIT margin of approx 23%

Pre 2000 **Various Positions held - Medical Scientist, Management in both Private and Public sector, Set up and managed international Pathology operations (India, Malaysia, Singapore)**

A review of the automatic concentration of DNA extracts using Microcon® Centrifugal Filter Devices: Options for QPS consideration.

January 2018

Justin Howes and Cathie Allen

A review of the automatic concentration of DNA extracts using Microcon® Centrifugal Filter Devices: Options for QPS consideration.

Published by the State of Queensland (Queensland Health), January 2018

For more information contact:
Forensic DNA Analysis, Forensic and Scientific Services, Department of Health, GPO Box 48, Brisbane QLD 4001.

Document Details

Contact for enquiries and proposed changes

If you have any questions regarding this document or if you have a suggestion for improvements, please contact:

Contact officer: Justin Howes
Title: Team Leader – Forensic Reporting and Intelligence Team
Phone: [redacted]
Email: [redacted]

Contents

1. Abstract

All casework DNA extracts that underwent a concentration step using the Microcon® process were evaluated and categorised into whether there was meaningful information obtained or not. This evaluation primarily focussed on samples that underwent an 'auto-microcon' process in 2016.

The findings of this evaluation are presented for the Queensland Police Service to advise on whether they would prefer their Priority 2 samples to continue with the 'auto-microcon' process, or to cease this automatic step and notify the laboratory if particular samples are requested to be reworked.

These options relate to Priority 2 (Major Crime) samples only, as the process developed in 2012 for Priority 3 (Volume Crime) samples will be reinstated with the operationally-required move to process these samples using PowerPlex® 21 system (PP21).

2. Definitions

DNA Profile Intelligence: DNA profile information available for interpretation by Forensic DNA practitioners that is able to be provided to clients.

Fail: In this report, this is DNA profile information that was not suitable for comparing to reference DNA profiles and other casework samples. This word was used to filter the data into two possible outcomes (fail/success).

NCIDD: National Criminal Investigation DNA Database.

QPS: Queensland Police Service.

Success: In this report, this is DNA profile information that was obtained that was suitable for comparing to reference DNA profiles and other casework samples. This word was used to filter the data into two possible outcomes (fail/success).

3. Introduction

Microcon® Centrifugal Filter Devices desalt and concentrate macromolecular solutions such as DNA-containing solutions. They employ Amicon's low binding, anisotropic, hydrophilic regenerated cellulose membrane [1].

The use of Microcon® filters to concentrate extract has been a standard post-extraction process within Forensic DNA Analysis to reduce the volume of

extract from approximately 100uL to ≤35μL for amplification with PowerPlex® 21 system.

Since the implementation of PP21 amplification kit within Forensic DNA Analysis for casework samples in December 2012, extracts with low Quantification values were recommended to be concentrated. Templates of <0.132ng (Quantification <0.0088ng/uL) were found to exhibit marked stochastic effects after amplification [2]. Consequently, a workflow that directed extracts automatically to a concentration step based on Quantification value was implemented ('auto-microcon' process) for Priority 2 samples.

A workflow for Priority 3 samples remained within active Standard Operating Procedures to have the DNA extracts not amplified, nor automatically concentrated with Microcon® filters, but to be held after Quantification and QPS informed that low levels of DNA were obtained that were insufficient for further processing at that stage [3][4].

Anecdotally, the suitability to provide QPS with DNA profile Intelligence from extracts that have been concentrated has been noted to be limited, and added to scientist's time and availability to direct resources to samples with more DNA detected.

4. Data interrogation

The 'auto-microcon' data was interrogated by assessing the DNA profile outcome results reported as Exhibit Report lines as a function of the Quantification value.

The Exhibit lines were interrogated and grouped into two interpretation outcomes as follows:

1. 'Fail': DNA profile interpretation outcomes of 'Complex unsuitable for interpretation', 'No DNA profile', 'Partial unsuitable for interpretation', 'No DNA Detected';

2. 'Success': All other DNA profile outcomes including single source DNA profiles matching assumed known contributors or different reference DNA profiles, mixtures that were suitable for comparison to reference DNA profiles, DNA profiles that were suitable for loading to NCIDD.

NB. These descriptions were used to filter the data. A 'fail' does not mean there was a Quality failure in the process; a 'success' does not necessarily mean a DNA match.

5. Assessment of 'auto-microcon' results

Intent
Evaluate the 'success' or 'fail' outcomes for PP21 samples that were processed in 2016 through the 'auto-microcon' workflow.

Data Analysis
The samples applicable to this experiment had Quantification values in the range 0.001ng/μL to 0.0088ng/μL, and a total number of samples that were processed this way was determined. This total number excluded environmental samples, samples without Quantification values, samples not requested for further work, samples where quality flags were raised, and samples that had not returned results at the time of data collection.

DNA profile interpretation outcomes were grouped into either 'success' or 'fail' as a function of the Quantification value. A percentage of samples that fell into these categories was determined.

The 'auto-microcon' data could be expressed as a function of Quantification value.

The percentage of samples that had an 'auto-microcon' process and led to an NCIDD upload was obtained. This data could be filtered further into the outcome from the NCIDD load, at the time of data collection.

6. Datamine of the difference in pre- and post- Microcon® Quantification values

Intent
Evaluate the difference between the Quantification values obtained for samples prior to the 'auto-microcon' step, and then after the 'auto-microcon' process. This is to assess, through the Quantification data, the effectiveness of the Microcon® step in concentrating the DNA extract.

As this is purely a datamining experiment, only the samples that yielded a result of 'success' were examined.

Data Analysis

The samples applicable to this experiment had Quantification values above 0.001ng/μL and less than 0.015ng/μL where the final result was 'success'.

This range was considered by the author to be able to provide a sufficient demonstration of the trend of the data (N=278 samples).

7. Results and Discussion

7.1 Assessment of 'auto-microcon' results

There were N=1449 samples in the 'auto-microcon' Quantification range, excluding certain samples as per Section 5.

The percentage of samples that resulted in a determination of 'fail' was 89.4% (Fig 1). As expected, the number of 'fails' increased when the Quantification decreased and approached the Limit of Detection of Quantification ie. 0.001ng/μL (Fig 2). This was considered to be due to there being less DNA detected in the extract, and therefore less DNA to concentrate.

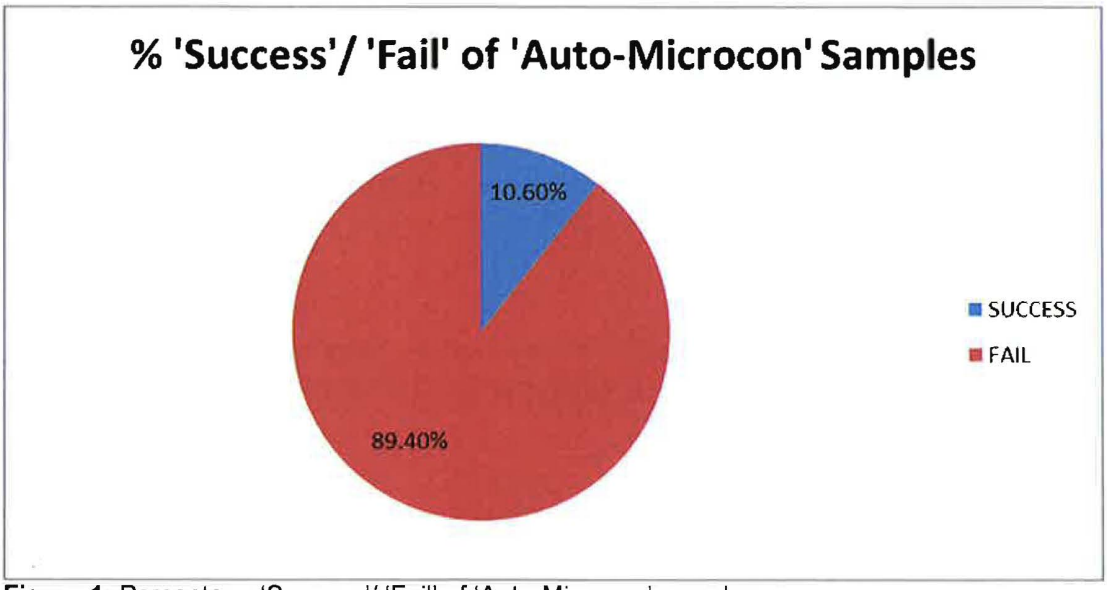

Figure 1: Percentage 'Success'/ 'Fail' of 'Auto-Microcon' samples.

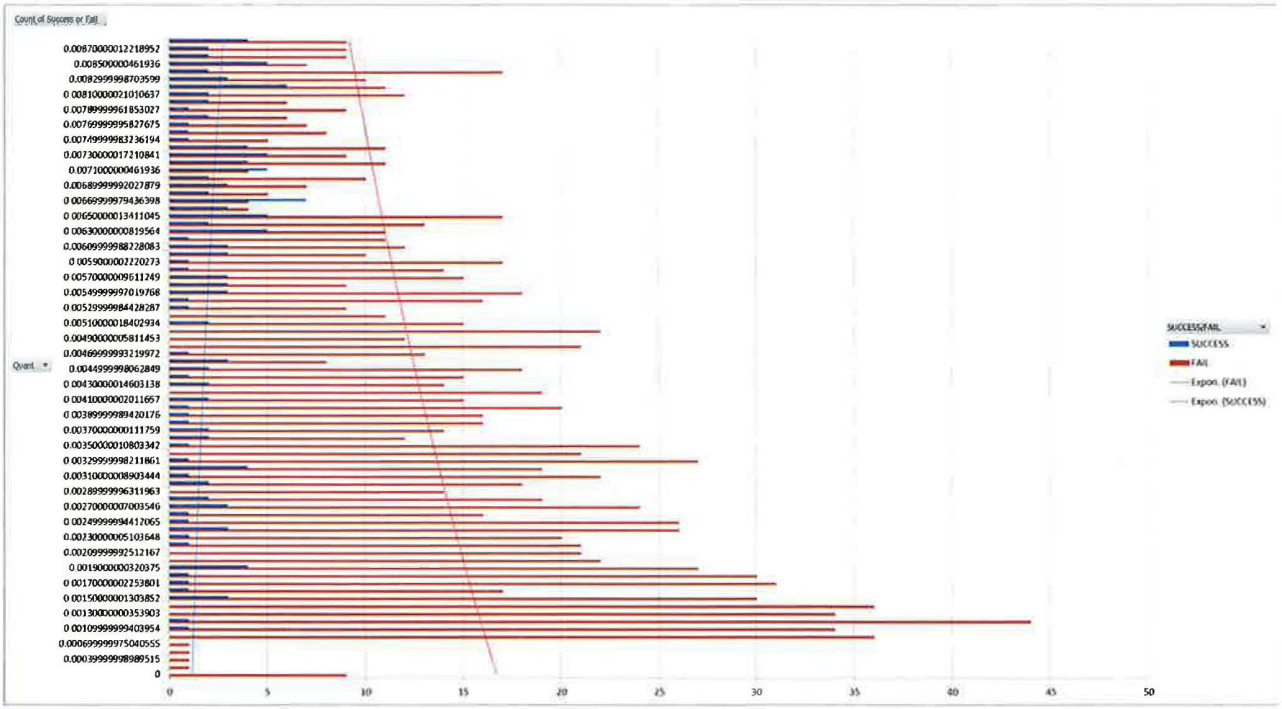

Figure 2: Spread of data and categorised as 'Success'/ 'Fail' for 'Auto-Microcon' samples.

If samples were not processed through the 'auto-microcon' process, what DNA Intelligence would the client miss out on? To evaluate this, the 'success' data was drilled down to the samples that had some NCIDD interaction and in particular, where they were the only samples in the case that were NCIDD-suitable for that particular profile. This represented 1.86% of all 'auto-microcon' samples. In looking at samples that provide *new* Intelligence, that is DNA information available for future linking, or has provided a cold-link, this equated to 1.45% of all 'auto-microcon' samples (Fig 3)..

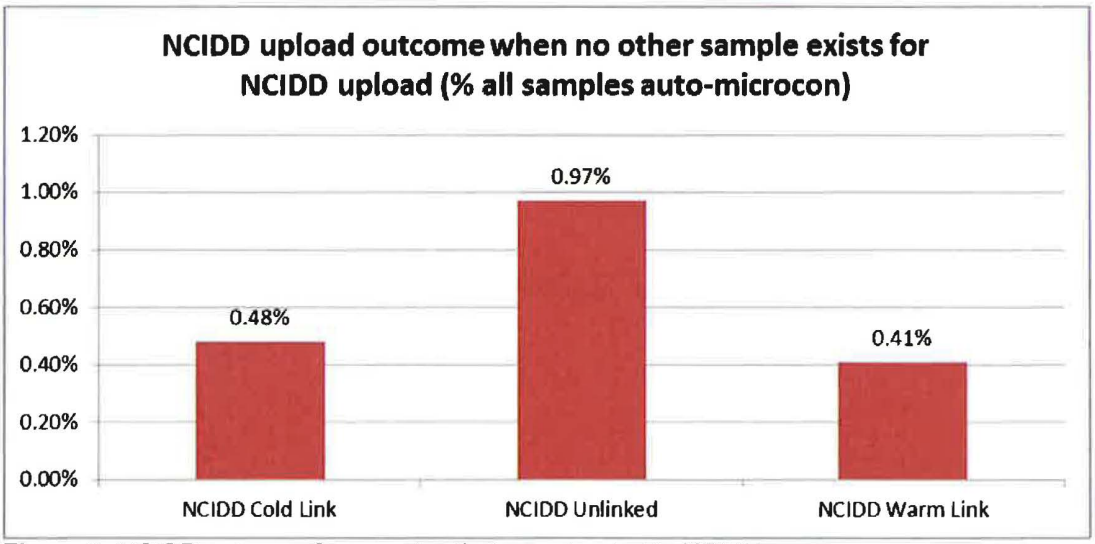

Figure 3: NCIDD outcome for samples that were loaded to NCIDD

This 1.45% of 'auto-microcon' samples is considered to be the pertinent value for the client to assess if the 'auto-microcon' process was not performed.

7.2 Datamine of the difference in pre- and post- Microcon® Quantification values

The samples applicable to this experiment had Quantification values above 0.001ng/μL where the final result was 'success'.

As the Microcon® process concentrates the DNA extract from approximately 100uL to approximately 35μL, in theory it would be a reasonable expectation to obtain approximately two to three-fold increases in DNA Quantification after concentration. Figure 4 shows the plot of the differences found for samples that resulted in 'success'.

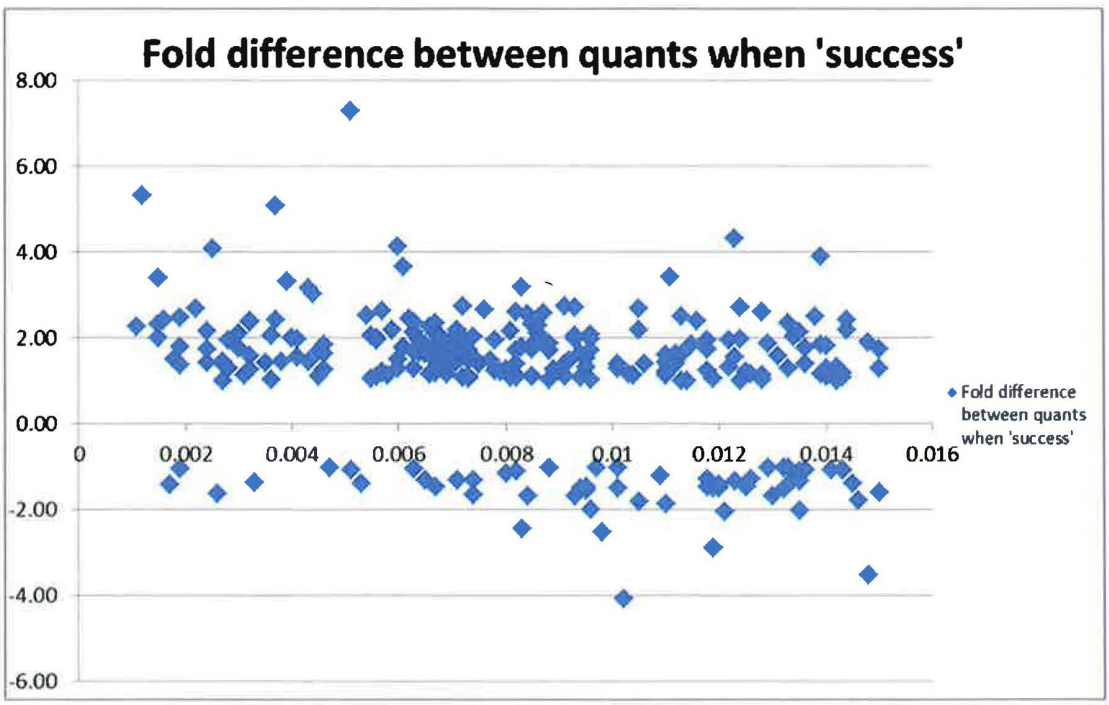

Figure 4: Quantification differences pre and post concentration

The findings are not unexpected as the scatter focusses mostly around two-fold increases in Quantification. It was also not unexpected to observe the variable results. Anecdotally, variability in success rates is found at profile management stage when assessing results of samples that have had this concentration step.

DNA can be lost in the process as seen in Fig 4 where the Quantification values decreased after concentration (below the horizontal axis). Variability in results could be attributed to a number of things, including but not limited to the slight

differences between operators and instrumentation, the differences in substrate type and level of degradation, and the variability in Quantification result.

8. Options for consideration

The options to consider are:

1. Continue with 'auto-microcon' process for Priority 2 (Major Crime) casework; or,

2. Cease the 'auto-microcon' process for Priority 2 (Major Crime) casework and report the exhibit result of 'DNA insufficient for further processing' based on Quantification result.

    a. Priority 1 samples could proceed with the 'auto-microcon' process. If a DNA concentration rework is required, the Microcon® process can be ordered manually by the scientist.

In considering continuing or discontinuing the automatic concentration of DNA extracts for Priority 2 (Major Crime) samples, some key elements to consider include, but are not limited to:

- The opportunity to link DNA profiles on NCIDD would not be initially possible (without automatic concentration) for approximately 1.45% of samples that would qualify for this process. Of the 'auto-microcon' data set (N=1449 samples) evaluated, 1.45% equates to 21 samples;

- Time and cost for processing all samples in the 'auto-microcon' range, including batch preparation, Quality checking and control;

- Time and cost for processing these samples further with additional rework options, as one would expect with low levels of DNA detected initially;

- The ability to potentially reallocate staff time currently allocated to processing, interpreting and reporting 'auto-microcon' samples, to samples with higher DNA yield, thus improving the turnaround time for results on these samples;

- The opportunity to conserve DNA extract for further processing with other technologies should that be considered (eg. Y-STR analysis, Low Copy Number analysis);

- The improved ability to provide quick results to QPS (using the Forensic Register at Quantification stage) indicating low levels of DNA detected, thus enabling QPS to employ further strategies at their discretion (eg. further sampling of items, request the rework);

- The continued ability to process the DNA extract upon client request or depending on priority (eg Priority 1 – Critical Priority).

9. References

[1] QIS 19544v11 – Concentration of DNA Extracts Using Microcon Centrifugal Filter Devices

[2] PowerPlex® 21– Amplification of Extracted DNA Validation. Megan Mathieson, Thomas Nurthen, Cathie Allen. December 2012. Forensic DNA Analysis.

[3] QIS 23008v15 – Explanation of EXR/EXH Results

[4] QIS 24012v13 – Miscellaneous Analytical Section Tasks