

ChemCentre
ANNUAL REPORT

FOR THE
YEAR
ENDED

30TH
JUNE 20
17

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Statement of Compliance

Statement of Compliance

For year ended 30 June 2017

HON Dave Kelly MLA.

Minister for Water; Fisheries; Forestry; Innovation and ICT; Science.

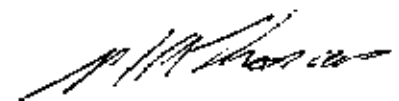
In accordance with Section 63 of the *Financial Management Act 2006*, we hereby submit for your information and presentation to Parliament, the annual report of ChemCentre for the financial year ended 30 June 2017.

The annual report has been prepared in accordance with the provisions of the *Financial Management Act 2006*.



David Blyth
Chair of Finance & Growth Committee
Member of Governing Board

Date: 29 August 2017



Mark Thomas
Chair of Risk Committee
Member of Governing Board

Date: 29 August 2017

Contact Details

Postal address

PO Box 1250
Bentley Delivery Centre WA 6983

Location

Corner Manning Road & Townsing Drive
Bentley WA 6102

Electronic address

Internet: www.chemcentre.wa.gov.au
Email: enquiries@chemcentre.wa.gov.au
Telephone: +61 8 9422 9800
Facsimile: +61 8 9422 9801

Overview

OVERVIEW



From the Chair

ChemCentre has arrived at an interesting point in its development as an organisation this year. We have completed building the foundations of the organisation we wish to be in the future and have finalised a Strategic Development Plan to take us through the next five years (2017–2022). We have sought to confirm existing relationships and develop new ones through a range of Memoranda of Understanding (MOU), both within Australia, and Western Australia specifically, and also across the broad international forums in which we operate.

At the same time, we are experiencing changes internally within the organisation, not least of which was the change of CEO in June 2017. Peter Millington retired after a long and distinguished career in the public service, the last eight years of which he ably spent at ChemCentre's helm. Peter was the right CEO to lead ChemCentre as it built its foundations and left the organisation in a strong position for future growth in line with the objectives of the new Government. I thank Peter for the great service he has given ChemCentre and for the positive way he approached what was an often challenging role. On behalf of the other board members and staff, I wish him a happy retirement and safe travels.

In June this year, Peter McCafferty became ChemCentre's CEO. Peter joined ChemCentre in 1992 after working as a chemical analyst in the private sector. He has been an essential member of the Executive team since 2007 and, as Director of the Scientific Services Division wrote ChemCentre's Risk Policy, which underpins the fundamental shift in the organisation's financial position.

From here, ChemCentre enters a new phase during which we will build on the solid foundations we now have in place.

ChemCentre has an enviable reputation as an objective, credible science-based organisation, providing an essential service to Western Australia. People are accustomed to looking to us to provide the truth, particularly in the justice system where we are relied upon to supply legally defensible and scientifically accurate forensic science. But we have a broader role and broader relevance to the state,

which becomes clearer and more necessary amid increasing public expectations for improved integrity and transparency in health and safety standards around food, water and the environment.

During the year, we saw a case in point for this in the issue that arose over lead contamination in water at the Perth Children's Hospital construction site. ChemCentre was able to provide the State Government with sound scientific data recommendations to assist with resolving the issue.

ChemCentre is always there as a first responder in cases of emergency, with a team on call in the event of spills and incidents. We can rapidly identify unknown chemicals and recommend how to best deal with them to minimise public risk. In the future, we seek to contribute to more of the strategic science-based decisions that will need to be made, not just in times of emergency.

This role as the provider of scientifically-rigorous information, while not always visible or publicly obvious, is critical. It is a role for which ChemCentre has a natural fit. The expertise of the ChemCentre staff and board is truly world class, with many staff members taking leadership roles in high level international and national professional associations. We see a future role for ChemCentre in areas such as food security and safety, agricultural security, water quality assessment, and environmental testing, and thus contribute not only to increase the confidence of WA communities in these activities but to also support WA industry in differentiating themselves in international markets. Fledgling certification schemes across these disciplines and sectors will need to be underpinned with good science; the type of rigorous science and testing protocols that ChemCentre has proven itself to hold. We are looking forward to a bright future.

Denise Goldsworthy
Chair, ChemCentre Board

OVERVIEW



From the CEO

ChemCentre achieved a major milestone this year, beating our budget by \$1 million, despite cost pressures from a range of sources. This is the first time for some years that we have achieved this and we have done so by putting in a lot of work with both private and government clients to ensure we contribute our part to their businesses. The result was also supported by the work with Treasury to develop a comprehensive financial model that allows us to robustly track costs and margins as well as to demonstrate our ongoing value to Western Australia.

We have actively sought and capitalised on business opportunities, building on our reputation and capacity as the state's leading analytical chemistry provider. Our new partnership with the National Measurement Institute (NMI) came to fruition on 1 May 2017 when NMI Kensington transitioned to ChemCentre. The move came after months of collaborative and positive negotiations between our respective federal and state agencies, and considerable hard work in physically moving equipment. The transition was smooth and we were able to supply an undisrupted service to old and new clients throughout the move. Congratulations and thank you to the ChemCentre and NMI staff who made this possible. I am pleased to welcome the NMI staff to ChemCentre.

Staff are the key ingredient in ChemCentre's success. We have world class laboratory facilities, but the quality of the work that goes on in those laboratories is due to the quality of the people who work in them. At ChemCentre we are particularly fortunate to be at the leading edge of a wave of young women entering science and technology professions in recent decades. While many organisations strive to reach quotas for gender balance, ChemCentre is in the advantageous position of already having a 50:50 gender split among our managers. We have a great team, largely comprised of young, enthusiastic people. At a leadership level, our staff includes many nationally and internationally recognised experts. We offer a flexible workplace with a good culture and are rewarded with a smart and innovative staff. Our experience has been that when

barriers don't exclude people of different backgrounds, the result is a diverse, balanced, effective and adaptable workforce. This adaptability is particularly important in a business like ChemCentre.

Our ability to shift emphasis and redirect resources to meet changing demands is a key part of our success. For example, our involvement with the WA Police in their operations against clandestine drug laboratories has taken significant ChemCentre resources in recent years. A decline in the number of clan-labs means that we are now considering merging our response teams and redirecting additional resources to new areas where business is expanding. Our fit-for-purpose laboratory enables us to address the state's chemical risk, from whatever source it originates.

The benefit to the state has been well-illustrated by the work we have done at the Perth Children's Hospital construction site. The problem is more complex than it might first appear and ChemCentre expertise has been pivotal, with the team providing high-level consultancy, complex chemical services, and timely analytical data.

I'm pleased and proud to have recently stepped into the role of CEO of this dynamic organisation, and thank my predecessor Peter Millington for leaving the organisation in such great shape. I'm looking forward to working with the ChemCentre staff and Board in years to come as we continue to provide our clients with first-rate services and to play our part in keeping Western Australia safe and prosperous.

Peter McCafferty
Chief Executive Officer



Executive Summary

EXECUTIVE SUMMARY

Working for a safe and prosperous community

ChemCentre is a Western Australian statutory authority providing chemical and forensic science services to the people and government of Western Australia to help keep the state safe and prosperous. Our services and expertise mitigate state risks, protect the community and support sustainable development. The WA community is ultimately the beneficiary of ChemCentre's activities; our clients include the Western Australian Government, government trading enterprises, and industry. We work from a world-class analytical chemistry laboratory housed within the Resources and Chemistry Precinct at Curtin University.

What we offer

ChemCentre offers a unique combination of scientific excellence and applied expertise:

- Internationally recognised expertise and experience in our specialist fields
- Routine and bespoke services to suit clients' needs
- State-of-the-art analytical equipment and methods
- National Association of Testing Authorities (NATA) accreditation across many of our specialist areas, with the longest running NATA accreditation in Australia (first accredited in the 1950s)
- Applied R&D to identify and develop new methods to assess emerging risks and assist the sustainable development of Western Australia
- Collaborative scientific networks with partners at the state, national and international levels
- Continuous on-call emergency response capability for dealing with chemical incidents and emergencies throughout WA

Our core responsibilities

To support a safe and prosperous Western Australia, ChemCentre works to:

- Mitigate risks to government associated with public health, public safety and the environment

- Keep the state safe during times of emergency and crisis
- Support the state justice and policing systems
- Support the sustainable economic development of the state
- Support science capability and engagement in the state
- Develop our people and enhance organisational capability

Our work

ChemCentre's day-to-day work is organised around two main areas: forensic science and scientific services, which incorporates emergency response. We also conduct research, education and outreach activities. Our work encompasses all the major industries in WA, including agriculture and mining, and provides essential chemical information and services in policing, justice, public health and safety, and environmental protection.

This report summarises highlights from our work in 2016–17 in the areas of Forensic Science, Scientific Services, Research and Development, and Outreach and Education.

Forensic science

ChemCentre plays a key role in justice administration in Western Australia, providing authorities with defensible, high-quality forensic science testing and expertise. The forensic science laboratory (FSL) provides analytical services in forensic toxicology, trace evidence, drug analysis and racing chemistry for state and district coroners, the police and other government agencies. We have specialist teams able to examine a range of evidence, ranging from blood and urine samples from coronial investigations into sudden or unexplained deaths to oral fluids from roadside drug testing. We can also characterise trace evidence such as explosives, accelerants, gunshot residues, paint, hair and fibres for criminal investigations. We assist the WA Police in investigations of illicit and new synthetic drugs, and clandestine laboratories. We assist the racing industry by providing anti-doping testing to ensure the industry operates with integrity.

EXECUTIVE SUMMARY

In the 2016-17 financial year, ChemCentre:

- Managed a dramatic increase in the number of urgent post-mortem toxicology cases, with over 500 received this year. This change is driven by Coronial procedural changes and cultural changes within the Western Australian community, with more people requesting urgent external post-mortem examinations to enable rapid burial of the body.
- Developed new validated methods for New Psychoactive Substances (NPS), opiates and THC in forensic toxicology.
- Developed analysis procedures for medicinal cannabis.
- Developed a headspace analysis methodology for profiling illicit drugs.
- Distributed Drugs Newsletters and alerts to law enforcement, health and justice stakeholders.
- Collaborated with Royal Perth Hospital on the WA Illicit Substance Evaluation Study (WISE), which will help improve screening and diagnostic procedures for people presenting at hospital emergency departments under the influence of psychoactive substances.
- Incorporated into the MOU with WA Police the crash victim (traffic injured) blood testing program.
- Signed an MOU with the Commonwealth Department of Immigration and Border Protection to provide analytical testing services on suspicious substances. This federally-funded work involves substances entering Australia through the Northern Territory and South Australia, as well as Western Australia.
- Changed the analytical methodology used in racing chemistry from immunoassay to the more efficient Liquid Chromatography Triple Quadrupole Mass Spectrometry (LC-QQQ MS).
- Incorporated Liquid Chromatography Mass Spectrometry Quadrupole Time-Of-Flight (LCMS-QTOF) screening protocols into racing toxicology to align with WA Police and Coronial screening methodologies.
- Achieved ongoing compliance with AS ISO/IEC 17025 through the National Association of Testing Authorities (NATA), and sought compliance with the recently introduced Australian Standards for forensic analysis (AS 5388: Parts 1–4). The scope of ChemCentre's NATA accreditation was extended to include: AS 5388.1 Recognition, recording, recovery, transport and storage of material; AS 5388.2 Analysis and examination of material; AS 5388.3 Interpretation; AS 5388.4 Reporting; AS 4760:2006 Section 4 – Laboratory screening procedures.
- Established a proteomics capability, enabling us to investigate large molecules, such as peptide drugs, disease biomarkers and performance enhancing hormones.
- Worked with Lynwood Senior High School to collect random fibre samples to augment our trace evidence fibres database, which is a unique and critical tool in linking suspects to victims and crime scenes.
- Participated in professional meetings, organisations and conferences, including Chemical Criminalistics Specialist Advisory Group Meeting in Canberra; Illicit Drugs Specialist Advisory Group Meeting in Adelaide; Australia and New Zealand Forensic Science Society (ANZFSS) Auckland; Interpol Forensic Symposium in Lyon, France.
- Provided leadership in forensic science in professional organisations. ChemCentre forensic science staff hold leadership roles in various national and international forensic science associations: Chair of Senior Managers of Australian and New Zealand Forensic Laboratories (SMANZFL) and member of the Forensic Executive Committee of the National Institute of Forensic Science (NIFS); SMANZFL Mentor for the Toxicology and Chemical Criminalistics Special Advisory Groups (SAGs); Chair of Toxicology SAG; chair of the Drugs SAG; chair of the Chemical Criminalistics SAG, Chair of Association of Official Racing Chemists (AORC).

EXECUTIVE SUMMARY

Case study

Fibres database

As part of a cold case review, the Physical Evidence section was tasked with the recovery of fibres from items of evidence relating to a case that yielded more than 4400 fibres. These fibres were then individually characterised and, with no identified suspect at the time, fibres of any colour/type were potentially of evidential value. To assist in the interpretation of the recovered fibres, the laboratory built a custom database and search program that allows the entire fibre collection to be sorted into groups based on fibre type, digital images and UV-visible absorption spectra. This is the first database of its kind and has subsequently attracted international interest.

The database has continued to expand and currently contains over 16,000 fibres drawn from casework, fibre populations studies and proficiency trials. The database searching program is currently undergoing a process of validation with other Australian laboratories and the National Institute of Criminalistics and Criminology (NICC) in Belgium, before the planned publication of its architecture and utility.



Investigating the qualities of fibres under a digital microscope.

Case study

Proteomics work

ChemCentre has begun a groundbreaking two-year proteomics research project with Edith Cowan University's Centre for Integrative Metabolomics and Computational Biology. The project will use the combined expertise of an ECU post-doctoral researcher and ChemCentre forensic toxicologists to develop a range of enhanced analytical capabilities.

Proteomics refers to the systematic identification and quantification of the proteins of a biological system – such as cell, tissue, organ or biological fluid. High-resolution mass spectrometry will be used to develop the powerful screening and quantitative analyses required. Through this project, ChemCentre aims to enhance its capability by exploring novel forensic proteomic applications, leading to the development of methods not currently available in Australian forensic laboratories. The project will assist Western Australian agencies' control over racing and sports doping by detecting unlawfully administered peptide drugs, and will also explore avenues to enhance the information provided to the WA Police and the Office of the State Coroner when investigating crime and unexplained deaths.



ChemCentre Forensic Toxicologist and ECU post-doctoral researcher collaborating in the set up for proteomics research.

EXECUTIVE SUMMARY

Scientific services

ChemCentre's specialised scientific services facilitate Western Australia's sustainable economic development while ensuring the state is safeguarded from chemical risks to community health and safety, and the environment. We provide comprehensive services to government agencies and the private sector to assess chemical risk and provide scientifically rigorous advice, backed by appropriate quality assurance and accreditation. Our expertise and services cover water, soil, mining, occupational health, food, petroleum and air analyses.

ChemCentre's Emergency Response (ER) capability provides an essential service to the people of Western Australia, playing a crucial role in protecting the community and managing risks associated with hazardous materials (HAZMAT) and suspected chemical, biological or radiological (CBR) incidents. The Emergency Response team maintains a 24-hour roster every day of the year, drawing on more than 18 expert staff and a fully-equipped mobile laboratory ready to respond to any incident.

On arrival at an incident, ChemCentre ER staff follow strict protocols to ensure safety and to identify unknown chemicals as quickly as possible, so appropriate action can be taken to mitigate any threat. To ensure the long-term viability of ChemCentre's ER capability, this year has seen a strong focus on training staff members to fulfil the duties required when responding to incidents. There has been a sustained training focus on developing staff for the essential Field Liaison Chemist role. ChemCentre for the first time, also had an all female ER group on call, highlighting the number of professional female staff in the organisation.

In the 2016-17 financial year, ChemCentre:

- Provided expert advice to the WA Government regarding lead contamination in the water supply at the Perth Children's Hospital (PCH) construction site.
- Analysed more than 20,000 samples as we supported the government to tackle the ongoing lead issue at PCH construction site.
- Reached a formal agreement with the National Measurement Institute (NMI) to transfer NMI's Kensington chemical analytical services function to ChemCentre's facility in Bentley, WA. This transfer was successfully completed and the NMI staff began work as ChemCentre employees on 1 May 2017,

increasing ChemCentre's analytical capacity and expertise.

- Explored the potential for a wider national partnership with NMI, playing to our respective strengths in chemical and forensic science analysis. We are confident of further development in the partnership.
- Continued to work with the honey industry on a major R&D project, with the aim of establishing protocols and certification standards for monofloral honeys (honey from the nectar of one type of plant).
- Presented at the Society of Environmental Toxicology and Chemistry conference in Hobart on ChemCentre's hydrocarbon contamination case study work.
- Analysed more than 500 compressed air samples, including 50 samples requiring urgent (within 24 hours) analysis. Most samples come from the Royal Australian Navy (RAN), although samples from all sources are steadily increasing.
- Worked with CSIRO to conduct the two-day Cyanide Chemistry and Analysis Training Course, to provide participants with a detailed understanding of cyanide chemistry and hands-on practice on 'state of the art' analysis techniques.
- Helped the Eastern Metropolitan Regional Council (EMRC) ensure that wastes deposited at its secure landfill sites were successfully contained, by providing routine environmental monitoring services and complex bespoke analytical services. ChemCentre's services enable potential problems to be defined and methodologies developed to measure the presence of any emerging contaminants.
- Completed over 35 visits to landfill facilities throughout the Perth metro area to classify the hazardous household chemical waste for disposal.
- Provided advice to the whole-of-government approach to managing nutrients on the Swan Coastal Plain and Peel Harvey regions through Strategic Assessment of the Perth Peel Region (SAPPR) process.
- Provided consultancy services to TasWater to review its laboratory operations in Hobart.
- Participated in the World Water Conference in Brisbane, including showcasing several students' work.

EXECUTIVE SUMMARY

- Received written commendations from Standards Australia, Aecom and country representatives from Germany and Canada for our work with several International Standards Organisations committees.
- Continued our support of the Water Corporation Groundwater Recharge Program as they ramp up to the next stage of managing Western Australia's water security.
- Continued to work with the Cooperative Research Centre for Contamination Assessment and Remediation of the Environment (CRC CARE) as we seek to improve analytical methodologies and protect our environment.
- Completed the largest reporting milestones in the Australian Institute of Marine Science's Applied Research Program (ARP). This program seeks to improve knowledge of baseline hydrocarbons in the Browse Basin, Timor Sea. This data will be used by Shell and Inpex as part of their oil pollution emergency plan in the event of a Tier 3 spill from their recent gas developments (Prelude and Ichthys).
- Provided consultancy analysis for the Northern Territory EPA, assisting in identifying the parties responsible for a major oil spill in Darwin Harbour.
- Developed and validated a method to measure perfluorinated alkyl substances (PFAS) in water and soil, including NATA accreditation for perfluorooctane sulfonate (PFOS) and perfluorooctanesulfonic acid (PFOA) to identify potential hazardous materials to enable appropriate disposal.
- Provided advice to the Department of Defence with respect to dust and contaminant monitoring within their aircraft fleet.
- Attended and resolved a number of emergency response incidents, including suspicious materials delivered to police stations, traffic incidents involving chemical spills, unknown chemical substances, the discovery of highly explosive picric acid in a storeroom, various mercury spills, and suspicious substances and chemical spills on planes.
- Participated in WestPlan activities, including meetings aimed at rationalisation and integration of two key existing plans, and developing incident response plans for incidents involving various dangerous substances.
- Conducted advanced emergency response training with input from the Department of Fire and Emergency Services (DFES) and industry.
- Participated in the annual Western Australia Fire and Emergency Services (WAFES) conference providing interactive exhibits and an informative demonstration on contamination transfer.
- Provided training at the DFES Academy on the role of ChemCentre in HAZMAT incidents, and the correct use of handheld detection equipment.
- Participated in a HAZMAT emergency response exercise initiated by the Department of Fire and Emergency Services to test the feasibility of using air transport to reduce the response time in life-threatening situations in semi-remote areas. The success of this trial means that ChemCentre can readily deploy key staff and equipment over a much greater area of WA in a short time frame.
- Participated in a review of the Chemical Warfare Agent Laboratory Network (CWALN) Terms of Reference.
- Participated in a review of a draft document for the National Health CBRN (Chemical, Biological, Radiological, Nuclear) Plan.
- Participated in the HAZCHEM Conference (Chemical Safety and how to comply with the Globally Harmonised System) in Perth.

EXECUTIVE SUMMARY

Case study

Perth Children's Hospital water testing

ChemCentre played an integral role in assisting the State Government with its investigation into the source of lead in water at the Perth Children's Hospital construction site. Beginning in September 2016 we analysed water samples and other material from across the hospital site. Our tests on brass fittings showed Perth tap water could leach lead from the fittings tested. Subsequent phosphate treatment reduced the lead levels to within acceptable Australian Drinking Water Guidelines (ADWG) levels in many instances.

Orthophosphate treatment of brass converts the surface lead compounds to lead phosphates which are much less soluble than the oxides or carbonates. This type of treatment has been used successfully in North America and Europe. Phosphate has reduced the lead in water at PCH and we hope that this and other actions will resolve the problem.

ChemCentre will continue to work with all agencies to ensure that the lead problem at PCH is resolved and monitored over time.



ChemCentre has analysed over 20,000 samples for the government, helping to tackle the PCH lead issue.

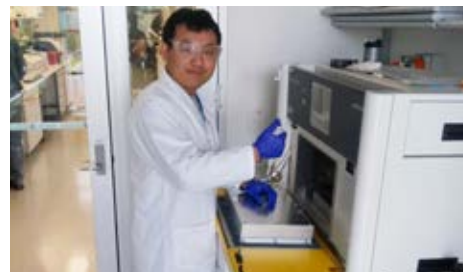
Case study

Working with the next generation of chemists

ChemCentre works collaboratively with Curtin University and other agencies to foster the next generation of chemists, providing scholarship funding and supervision to postgraduate students. Two such students are currently working towards completing their PhDs in water-related research, with additional funding and guidance provided to them by Water Research Australia (WRA). ChemCentre has a long-term relationship with WRA. ChemCentre's work with WRA ensures it remains up to date with the latest research to benefit WA.

One student's study focuses on the photochemistry of the aquatic environment, investigating the fate and transport of selected micro pollutants in sunlit waters. The aim is to understand sunlight-induced reactions and their impact on water quality, which will provide important knowledge on the behaviour of micro pollutants in waters in WA, such as surface waters, stabilisation ponds, and final settling tanks.

The second student's research is monitoring the chemical water quality of two newly built, filled and opened swimming pools, starting from before the facilities opened and continuing until they have been operating for 16 months, incorporating two summers. Disinfection by-products (DBPs), as well as other chemical and physical parameters, will be analysed to determine if the age of the pool has an impact on the levels of chemicals present and if these chemicals are likely to adversely impact patrons frequenting the facility, particularly the younger and more senior visitors.



Students study the photochemistry of the aquatic environment and investigate the quality of swimming pool water.

EXECUTIVE SUMMARY

Case study

Dealing with picric acid

ChemCentre's Emergency Response Team has attended various incidents over the past year involving picric acid. The substance, which is explosive when dry, has been used historically in pathology laboratories.

The response was initiated by the discovery of dried picric acid (wet picric acid is combustible as opposed to explosive) in chemical storerooms. In all instances, the material was rendered safe. Since then ChemCentre has collaborated with partner agencies DFES, WA Police and the Commonwealth Department of Defence to gain more knowledge on the sensitivity of picric acid and other potentially explosive chemicals, such that the perceived and actual risk posed by these substances can be properly assessed. The development of pragmatic destruction or mitigation methods for picric acid and other potentially explosive substances based on international best practice will limit the disruption caused by such discoveries. Following these incidents ChemCentre is collaborating with other agencies to enable audits of chemicals to provide guidance on legislative requirements related to the procurement, storage and handling of hazardous and explosive chemicals.



Picric acid was historically used in pathology laboratories.

Case study

Unknown white powder at Perth airport

ChemCentre responded to an incident involving an unknown white powder in the back of a truck located at the Australia Post Distribution Centre at the Perth Airport. With unknown substances, it is essential that absolute caution is exercised. 'Unknown' may prove to be lethal, or may be an illegal substance, in which case ChemCentre's initial work may lead to a customs or police investigation. The mobile laboratory was set-up on site and the substance analysed. It was positively identified as harmless and legal, enabling airport operations to return to normal with minimal disruption.



The white powder was found in the back of a truck at the Australia Post Distribution Centre at the Perth Airport.

EXECUTIVE SUMMARY

Research and Development

ChemCentre's research focuses on four main areas:

- Agriculture and food
- Environment and mining
- Water
- Forensic science

Our research provides information to enable Government to make informed decisions and develop evidence-based policies to mitigate Western Australia's chemistry-related risk.

In the 2016-17 financial year, ChemCentre:

- Demonstrated our capabilities to provide valuable research for the agriculture and food industries through our work with the honey industry; work that has enabled us to develop a research model applicable to other industries.
- Developed a project to advance tools for the mining industry to bring certainty to industry and government when determining mine site closure protocols and practices. *Mine Pit Lakes – Their Characterisation and Assessment for In-Situ Metal Recovery Opportunities and Cost-effective Environmental Management* is a collaborative project that will enable better management of mine pit lakes after mining, protecting the community and the environment from adverse impacts caused by chemical contamination of the lakes.
- Through a Minerals Research Institute of WA (MRIWA) project sponsored by BHP Billiton, we successfully developed a sequential leaching method that will serve as a screening tool for fast-tracking environmental impact assessment and mining approvals processes that normally are delayed by two-year kinetic leaching testing. The project is also delivering decision support tools for use by industry and government regulatory agencies.
- Continued to lead Australia in authenticating the Leaching Environmental Assessment Framework (LEAF) tests and modelling tools for the Australian environment. LEAF combines geochemical modelling and laboratory-based tests to help understand how industrial waste derived materials (from resources and energy sectors) will behave in the environment in the long term, and lead to more informed decisions regarding how to manage industrial wastes, and by-products.
- Hosted two international experts on LEAF tools to conduct training for ChemCentre staff and invited participants.
- Another LEAF R&D project focussed on trial sites at Jandakot and Ellenbrook, which will help regulators better understand how potentially useful by-products behave in the environment. These by-products can help reduce environmental degradation, help make land use more sustainable, and alleviate concerns about surface and groundwater integrity.
- Contributed a valuable component of the Better Measurement of Hydrocarbons program within CRC CARE. ChemCentre completed a study into the validity of the new National Environmental Protection Measures (NEPM) with respect to its guideline limits for petroleum hydrocarbon contamination in soils. In particular, whether these guidelines are appropriate to use in the case of heavily biodegraded hydrocarbons in contaminated sites.
- Developed the ExDET oil spill dispersant efficacy test in collaboration with the Australian Marine Oil Spill Centre (AMOSC). ChemCentre has worked with the industry body AMOSC to be able to test the shelf life of Australia's oil dispersant stockpiles to ensure optimal response should a spill occur.
- Established a proteomics capability, enabling us to investigate large molecules, such as peptides drugs, disease biomarkers and performance enhancing hormones.
- Developed new validated methods for New Psychoactive Substances (NPS), opiates and tetrahydrocannabinol (THC) in forensic toxicology.

EXECUTIVE SUMMARY

Case study

Improving understanding of Mine Pit Lakes

Mine Pit Lakes – Their Characterisation and Assessment for In-Situ Metal Recovery Opportunities and Cost-effective Environmental Management is a three-year collaborative project initiated by ChemCentre, and collaborating with CSIRO, MBS Environmental, and the departments of Mines and Petroleum; Water; and Environmental Regulation. The project is funded by both the Cooperative Research Centre for Contamination Assessment and Remediation of the Environment (CRC CARE) and the Minerals Research Institute of Western Australia (MRIWA). It aims to better inform and validate existing predictive geochemical models by obtaining 'real world data' from existing mine pit lakes and mine pit voids. After mining, there is potential for metals from walls and floors of remaining pits, which often fill with water, to become mobilised and leach into the water. This may have long-term implications, particularly from water-borne contaminants entering the environment. The study will enable greater certainty in predicting contamination and therefore enable better management and policy development.



Mine pit lake in Binduli, WA.

Case study

Honey research buzzing along

ChemCentre is working with honey producers to develop a certification scheme for monofloral honeys. Monofloral honey comes from the nectar of a single plant species, such as jarrah or marri. The certification process, which will use compositional chemistry and other techniques to characterise different bee products, will protect against product substitution and provide greater consumer certainty. The research will also help identify potential nutraceuticals in honey, thus helping to increase the product's value and uses.

Through our work with the honey industry, we were part of the successful bid for the federally-funded Cooperative Research Centre for Honey Bee Products (Honey CRC). The R&D model developed for this research has relevance to other agriculture and food sectors, and we are now investigating further opportunities. Western Australia has the ability to produce many quality products to take advantage of market opportunities and ChemCentre has the necessary expertise to develop safety and certification protocols.



Honey being poured at Davies Apiaries, a major partner in the certification scheme.

EXECUTIVE SUMMARY

Outreach and Education

ChemCentre delivers an outreach and education program to help promote scientific awareness and the understanding of chemistry in the community. This is an obligation under our Act, which requires ChemCentre to 'promote and assist in the provision of chemistry-based education and training'. We fulfil this requirement by providing expertise to state, national and international working groups where a WA-based benefit is defined; engaging with traditional and social media; supporting tertiary science education through scholarships, guest lecturing and postgraduate student supervision; and working with the primary and secondary education sectors.

In the 2016-17 financial year, ChemCentre:

- Engaged with more than 3000 students through our school's program and outreach activities.
- Awarded the fourth (final) Ritchie ChemCentre Scholarship in Chemistry at Murdoch University.
- Welcomed five University undergraduates, including the Ritchie ChemCentre Scholarship winner, to ChemCentre for a period of summer vacation work. Two of those five are now employed by ChemCentre.
- Achieved media coverage across print and electronic media, including interviews with ChemCentre staff on radio and television.
- Maintained an active presence on social media, particularly on Facebook and Twitter platforms, where ChemCentre has 740 and 290 followers respectively.
- Welcomed a range of distinguished guests to ChemCentre, including the new Minister for Science, the Honourable Dave Kelly, and international experts.

- Worked with the Science Teachers Association of Western Australia (STAWA), LABNETWEST, university outreach teams, university student chemistry clubs, the Perkins Institute, and the CSIRO Scientists and Mathematicians in Schools (SMiS) program.
- Held a position in the National Science Week WA Planning Committee, a group of WA's leading STEM professionals working together to ensure the success of Western Australia's National Science Week and Perth Science Festival.
- Participated in National Science Week festivities in Northbridge, where an estimated 6000 people enjoyed hearing and watching and smelling our chemistry-based activities. More than 2000 of our popular 'beaker kits' were distributed.
- Participated in STAWA's annual Future Science Conference, interacting with nearly 300 primary and secondary teachers, student teachers, science educators and lab technicians.
- Participated in the Arcadia science spectacular at Elizabeth Quay.
- Collaborated with Murdoch, Curtin and Edith Cowan Universities to co-supervise post graduate student research projects, at honours, masters and PhD level, that enhance ChemCentre services.
- Worked with students at Lynwood Senior High School to augment the fibres database used in forensic science investigations.



School Visits



Presentations



Perth Science
Festival



Other Events
(Curtin Open Day,
Arcadia STEAM Ahead,
University Career Days,
STAWA Future Science)

EXECUTIVE SUMMARY

Case study:

Arcadia a flaming success

ChemCentre blew the crowd away with an explosive demonstration at Elizabeth Quay during Arcadia's STEAM Ahead Community Open days on 23 and 24 November 2016. STEAM is the next generation STEM movement that incorporates the arts; science, technology, engineering, arts, and mathematics.

Industry and educators alike were invited to showcase STEAM-based learning for primary and high school students in accordance with the three pillars of Arcadia – Sustainability, Arts and Culture, Science and Innovation.

ChemCentre sparked students' interest in science by using smoke and flames to tie in with the Arcadia spider, which was a 6.5m tall mechanical spider that produced flames and smoke as part of the spectacle. The simple magic of flames and smoke was a winner with crowds of students keeping ChemCentre staff busy over the two days.



Communications and Outreach Officer lights a smoke bomb in an explosive demonstration for school groups.

EXECUTIVE SUMMARY

Financial Overview

The actual loss before tax for the year ended 30 June 2017 was \$529,000 compared to an actual loss before tax for the previous year of \$741,000 and the budget loss before tax of \$1,251,000. Revenue for the year was up 12.1% to \$17,899,000 despite a \$428,000 (5.5%) reduction in service appropriations in 2016-17.

Fee-for-service revenue increased by \$1,912,000. The additional revenue was earned from both the Government and the non-Government sectors. This resulted from increased sample numbers and increased prices. The non-Government revenue provides a valuable offset against some of the costs necessarily incurred in providing essential statutory obligations (Community Service Obligations) outlined in the *Chemistry Centre (WA) Act 2007*.

Total expenses during the year have increased by 5.3% to \$25,805,000. The 2016-17 building outgoing expense reflects a credit of \$160,000 compared to the \$62,000 outgoings credit received in 2015-16.

The other major changes in expenses were:

1. Employee benefits expense increased by \$617,000 (4.8%) to \$13,358,000. This is due to a higher average FTE number in 2016-17 (121) compared to 2015-16 (117). The higher number of FTE's flows from ChemCentre transaction with National Measurement Institute Perth operation and additional staff employed in response to the additional fee for service work from the new Perth Children's Hospital. It also includes the impact of a 1.5% salary increase for all staff members as per the General Agreement and level increments. This was offset partially by reduced leave liability as more leave was taken than accrued during the year.
2. External laboratory expenses increased by \$157,000 as more analysis work was sent to external parties in response to the increasing fee for service work.

3. Consultant fees increased by \$296,000 as a result of increased spending on strategic and R&D projects consultancy.
4. Equipment maintenance has increased by \$105,000 as equipment which is out of warranty period was added to maintenance contracts.

In the 12 months to 30 June 2017 the cash balance increased by \$36,000 to \$1,903,000. This increase was due to the increase in receipts for the fee for service work being greater than the increase in operational expenses. This was partially offset by a much higher spending on the Asset Investment Program (AIP) in 2016-17 than 2015-16. This reflects a catch up of the underspend on the AIP for financial years 2013-14, 2014-15 and 2015-16 due to cash concerns in the past years. The higher AIP expense in 2016-17 results in the written down value for assets both tangible and intangible as at 30 June 2017 being \$1,021,000 more than the previous year.

Operational Structure

Enabling Legislation

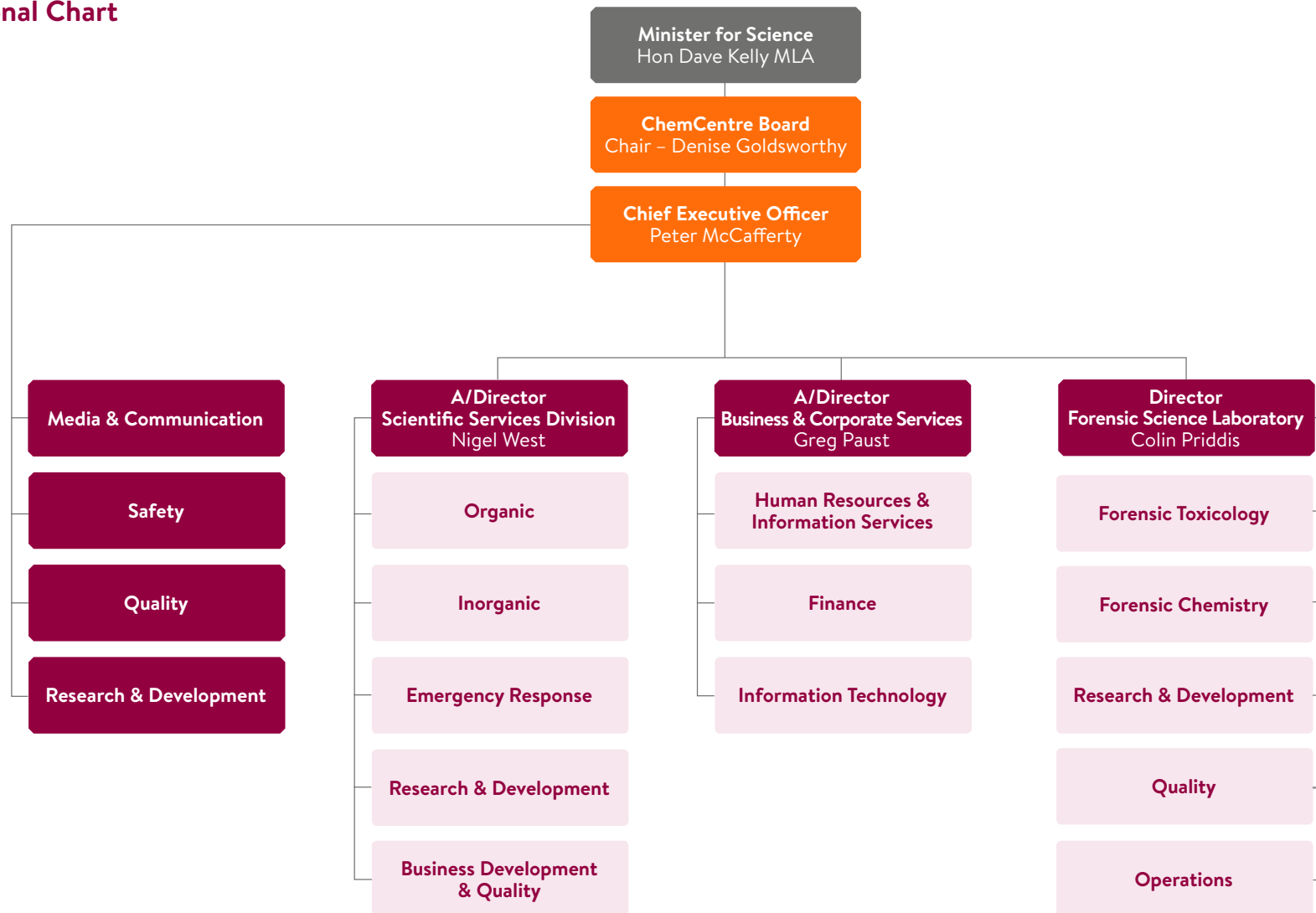
ChemCentre was established as a statutory authority under the *Chemistry Centre (WA) Act 2007*, on 1 August 2007.

Responsible Minister

Minister for Water; Fisheries; Forestry; Innovation and ICT; Science.

OPERATIONAL STRUCTURE

Organisational Chart



OPERATIONAL STRUCTURE

Board of ChemCentre

Each member of the Board is appointed by the Minister for Science and selected for the relevant expertise that they bring. Appointments (or re-appointments) are for three-year terms, with a staggered rotation of board membership.



Back row: Mr Bruce Brennan, Dr John Farrow, Mr Mark Thomas, Mr Peter Millington.
Front row: Ms Wendy Malcolm, Dr David Blyth, Ms Denise Goldsworthy, Dr Lianne Cretney-Barnes.

Board Profiles



Ms Denise Goldsworthy (Chair) (appointed 14 April 2014)

Board Committee Membership: Governance & Nominations Committee

Board Meeting Attendance: 6 of 6

Denise Goldsworthy, FTSE, FAIM, GAICD, is the founder of Alternate Futures Pty Ltd, a specialised consultancy established specifically to work at the interface between Australia's research organisations, tech start-ups and industry, facilitating connections between problems and solutions. By addressing translation, system and cultural issues, Alternate Futures facilitates the development of the internal capability to enable organisations to deliver impact from innovation. Prior to this, Denise worked as a senior executive for Rio Tinto, with roles including Chief Commercial Officer of Autonomous Haul Trucks, Managing Director of Dampier Salt Limited and Managing Director of Hismelt Corporation. Prior to her career with Rio Tinto, Denise spent 17 years with BHP Steel at the Newcastle Steelworks.

Denise also has a portfolio of Independent Non-Executive Director roles, including Export Finance and Insurance Commission (Efic); Minerals Research Institute of WA (MRIWA); a member of Council at Edith Cowan University; a member of the Commercialisation Advisory Board at Curtin University and Chair of Trustees for the Navy Clearance Diver's Trust. Among Denise's honours is being named the 2010 Telstra Australian Business Woman of the Year.



Dr Lianne Cretney-Barnes (Deputy Chair) (appointed 1 August 2007)

Board Committee Membership: Governance & Nominations Committee, Risk Committee

Board Meeting Attendance: 5 of 6

Lianne Cretney-Barnes has held senior positions in both private and public sector organisations for over 20 years and has considerable experience in strategic marketing, branding and business development. Lianne is also a Board Member and Chair of the Integrity Assurance Committee for Racing and Wagering WA and the WA Partner for Women on Boards.

OPERATIONAL STRUCTURE

Lianne has been recognised for her business development skills and commercial acumen, with awards for enterprise and market development including the Edith Cowan University Vice-Chancellor's Award for Enterprise in 2003. Lianne has a professional doctorate in Business Administration and is a Fellow of the Australian Institute of Company Directors, the Australian Institute of Management and the Australian Marketing Institute. She has been invited to speak at numerous conferences, both nationally and internationally. Lianne has her own company, Board Connexions, and coaches and mentors CEOs, senior executives and directors facing challenges with governance, leadership and strategy.



Dr David Blyth (appointed 1 August 2014)

Board Committee Membership: Finance & Growth Committee
Board Meeting Attendance: 5 of 6

David Blyth is Director/Principal of a consulting practice working with senior executives and boards on strategy development and execution, organisation design and executive talent management. He has more than 30 years' experience in business, industry associations (Chamber of Mines WA) and business schools. Prior to his successful consulting career, he was Executive Director of IFAP (a safety-based industry association) and launched an Executive Master of Business Administration program at Curtin University. David's career reflects successful growth from technical specialist to profit centre manager, operations manager and ultimately as a successful Managing Director of a technical services business. He has also spent four years as Program Director of Curtin's Executive Master of Business Administration.

David is known for his skills in guiding strategy development and the translation of the strategy into programs and initiatives, and for evaluating and working with executive teams. These skills are underpinned by strong investment analysis, executive judgement and communication skills. He is also widely consulted on organisational design, operating models and strategic leadership. His doctoral research explored organisational barriers to transformational leadership. David has worked widely in Australia and on assignments in China, South Africa, Ghana, the US and UK over the last five years.



Bruce Brennan (appointed 16 May 2011)

Board Committee Membership: Risk Committee
Board Meeting Attendance: 5 of 6

Bruce Brennan was a WA police officer for 39 years, serving in most facets of policing but predominantly as a detective. He completed his officer training at the Victorian Police Officer College in 1986 and the Australian Police Staff College in NSW.

In 1996, he was appointed Deputy Commissioner and State Commander and held this position until his retirement in 2003. In 2004, he worked on an AUSAid project based in Fiji as strategic adviser to the Police Chiefs of the 14 Pacific Island Forum Countries. In 2006, he was appointed to the Fire and Emergency Services Authority (FESA) Board and chaired the Bush Fire Service Consultative Committee. In his role as Deputy Commissioner, he served on many committees both locally and nationally. He has a long involvement with and understanding of working with government and was awarded the Australian Police Medal in 1998 for Services to Policing.



Dr John Farrow (appointed 1 August 2007)

Board Committee Membership: Finance & Growth Committee
Board Meeting Attendance: 6 of 6

John Farrow has more than 30 years experience in Applied Research and Development. John studied at the University of Western Australia, completing a PhD in Physical Chemistry before joining CSIRO in 1984. Prior to joining CSIRO, John investigated the mechanism of the iron oxidation used in the Becher Process, a process originally developed at ChemCentre and a core tool in the production of synthetic rutile.

During his career at CSIRO John's main research interests were focused on hydrometallurgy, including leading long-running AMIRA-funded studies on Improving Thickener Technology, which delivered over \$500M of benefits to industry. John was formerly the Manager for CSIRO's Process Science and Engineering's Waterford site (neighbouring ChemCentre), the Theme Leader for 'Advanced Mineral Processing' within CSIRO's Minerals Flagship and a member of the Executive Committee of the Parker CRC for Integrated Hydrometallurgy Solutions.

OPERATIONAL STRUCTURE

He has conducted collaborative R&D with more than 100 Australian and international companies as well as a wide range of researchers at Australian and international universities and research institutes.

He was the joint winner of the 2002 Australasian Institute of Mining and Metallurgy (AusIMM) Award for 'services to the minerals industry, through revolutionising the development and implementation of new thickener technology for mineral process' and two CSIRO awards, one for Science and one for Technology Transfer. John served on the ChemCentre Advisory Board, prior to ChemCentre becoming a Statutory Authority.



Mark Thomas (appointed 11 November 2014)

Board Committee Membership: Risk Committee
Board Meeting Attendance: 6 of 6

Mark Thomas was appointed Group Manager Infrastructure Services at Fortescue Metals Group Limited in February 2015.

He has previously held senior positions at Fortescue including Company Secretary, Group Manager Finance and Head of Finance & IT. Prior to Fortescue Mark held senior finance and accounting positions with the Goldfields Australia Group and with a number of professional service providers.

With more than 20 years experience in the mining and professional services industries, Mark has gained comprehensive experience in finance and accounting, governance and risk, information technology and business administration. He has a Bachelor of Commerce from the University of Western Australia, Graduate Diploma in Applied Corporate Governance, a Masters of Business Administration and is a Certified Practising Accountant and a Fellow of Governance Institute of Australia.



Wendy Malcolm (appointed 17 September 2015)

Board Committee Membership: Finance & Growth Committee
Board Meeting Attendance: 3 of 6

Wendy Malcolm joined the Royal Australian Navy in 1987 and studied at the University of New South Wales, completing a Bachelor of Science (Physics) in 1989, followed by a Masters in Commercial Law at Deakin University in 2001.

Wendy has had a diverse career in the Navy including operational service in East Timor, program management in shipbuilding, upgrade and sustainment and experience in commercial and project management in logistics, weapons upgrade and operational planning. Her most recent role saw her responsible for program management and sustainment of the Navy's ANZAC Warships based in Perth and Sydney. Her leadership and strategic approach whilst the ANZAC Systems Program Office Director delivered a complete rethink of the commercial approach to supporting and upgrading the warships resulting in significant savings and better operational availability to the Royal Australian Navy.

Wendy left the Navy having completed 28 years' service and was awarded a Conspicuous Service Medal in the Australia Day Honours List 2015. Wendy now works for Saab Australia in a major Defence Alliance supporting Navy ships across Australia.

Senior Officers

Mr Peter McCafferty

Chief Executive Officer (from 8 June 2017)

Peter McCafferty has worked at ChemCentre for more than 25 years. He was initially employed in the Environmental Chemistry area before moving to the then Food and Agricultural Chemistry Group. Immediately prior to his current role he was Director of Scientific Services.

Peter's previous experience included mineral exploration geochemistry (WMC and Genalysis) and in chemical manufacture and environmental analysis (Wesfarmers CSBP).

Peter has held senior positions at a State and National level with groups including the Royal Australian Chemical Institute (RACI), Australian Water Association, Water Research Foundation (USA) and the Australian Institute of Management (WA). He is a graduate of Curtin University with both chemistry and business qualifications and a graduate member of the Australian Institute of Company Directors. He was awarded the Wilf Ewers Citation for 'services to the profession of chemistry' by RACI (WA) in 2004. He has over 50 research publications, co-authored one book, and has represented ChemCentre at many state, national and international forums.

OPERATIONAL STRUCTURE

Mr Peter Millington

Chief Executive Officer (until 7 June 2017)

Peter Millington has worked in the WA and Australian public services. He has extensive experience in corporate management and was ChemCentre CEO for eight years, until his retirement in June. He is a member of the WA Innovator of the Year advisory committee and has considerable interest in innovation and the translation of science into practical outcomes.

Mr Greg Paust

Acting Director Business and Corporate Services

Greg Paust has extensive experience in senior executive leadership positions within the WA public service. He has expertise in leading corporate strategy and operations, policy, industry economic development and natural resource management in the fisheries and agricultural sectors.

Mr Nigel West

Acting Director Scientific Services Division (from 8 June 2017)

Nigel West has extensive experience in the public and private sector, utilising a range of analytical chemistry techniques to solve problems for industry, government and the public.

Mr Colin Priddis

Director Forensic Science Laboratory

Colin Priddis has over 30 years experience as a forensic scientist and manager, delivering services and expert opinion to clients, including WA Police, Office of the State Coroner, and Racing and Wagering WA. He has represented ChemCentre on national forensic and standards committees in the roles of member, Chair and mentor.

Dr Neil Rothnie

Director Research & Development

Neil Rothnie has over 35 years experience leading research programs that aim to ensure the safety and prosperity of WA. He is particularly interested in developing risk assessment tools that better enable the industry to plan for and address risks.

If unaddressed, these risks may impact on public health and safety and the environment, and delay the sustainable economic development of the state's industries.

Administered Legislation

ChemCentre administers the *Chemistry Centre (WA) 2007 Act*.

Other Key Legislation Impacting on ChemCentre's Activities

In performing its functions, ChemCentre complies with the following relevant written laws:

Auditor General Act 2006
Contaminated Sites Act 2003
Coroners Act 1996
Customs Act 1901
Dangerous Goods Safety Act 2004
Disability Services Act 1993
Equal Opportunity Act 1984
Health (Miscellaneous Provisions) Act 1911
Financial Management Act 2006
Freedom of Information Act 1992
Industrial Relations Act 1979
Medicines and Poisons Act 2014
Minimum Conditions of Employment Act 1993
Misuse of Drugs Act 1981
Occupational Safety and Health Act 1984
Public Sector Management Act 1994
Road Traffic Act 1974
Road Traffic Legislation Amendment Act 2016
Salaries and Allowances Act 1975
State Records Act 2000
State Supply Commission Act 1991
State Trading Concerns Act 1916

PERFORMANCE MANAGEMENT FRAMEWORK

Outcome Based Management Framework

Broad, high level government goals are supported at agency level by more specific desired outcomes. Agencies deliver services to achieve these desired outcomes, contributing to the achievement of the higher level government goals. The relationship between the government goals, agency level desired outcomes and associated services is tabulated below.

ChemCentre's effort is divided approximately 22% to the delivery of statutory services for government and 78% to fee-for-service activities, delivered to government and private sectors.

Government Goal	Desired Outcome	Outcomes
Social and Environmental Responsibility Ensuring that economic activity is managed in a socially and environmentally responsible manner for the long term benefit of the state.	Quality independent scientific advice, research and development, and an emergency response capability that support Government and the wider community.	Service 1. Scientific Information and Advice Development and delivery of quality scientific information and advice, on a commercial basis, to government, industry and the community. Service 2. Research and Development Project-based development of quality knowledge, know-how and/or intellectual property relevant to state development, public health and safety, or delivery of ChemCentre's other services. Service 3. Emergency Response Special technical advice and support to government, other government agencies and industry in managing the risks arising from unmanaged chemical-biological-radiological releases delivered just in time.

Changes to Outcome Based Management Framework

ChemCentre added an Outcome for "Research & Development" to its Outcome Based Management Framework for the Annual Report ending 30 June 2009 and thereafter.

Shared Responsibilities with Other Agencies

ChemCentre's Emergency Response service is largely delivered in support of the Department of Fire and Emergency Services, normally the controlling authority at such emergency events.

ChemCentre also provides an extensive forensic science service to the WA Police and the Office of the State Coroner.

Agency Performance - Report on Operations

AGENCY PERFORMANCE

The results for the year ended 30 June 2017 illustrate the ChemCentre's increasing commercial focus over the years since becoming a Statutory Authority in August 2007. ChemCentre continues to provide more services to state government agencies which is reflected in an 18% increase in growth over the previous year.

Financial targets:

Actual performance compared to budget targets to 30 June 2017

The results for the twelve months to 30 June 2017 reflect a favourable variance against budget of \$55,000 for the net cost of services. Total income is over budget by \$889,000 for the 2016-17 financial year. Fee for service work for the private sector is slightly under budget reflecting a difficult trading environment. This is mitigated to some extent by additional revenue earned from R&D projects such as honey and leaching projects.

The total cost of services increased by \$834,000 in response to the increase in revenue.

	Budget (\$)	Actual (\$)
Total income	17,010,000	17,899,000
Total cost of service	24,971,000	25,805,000
Net cost of service	7,961,000	7,906,000
Service appropriation	6,710,000	7,377,000
Surplus/(deficit) before tax for year	(1,251,000)	(529,000)

Key Performance Indicators:

Actual performance compared to budget targets

Key Effectiveness Indicators	Target	Achieved
Service 1: Client Satisfaction	80%	84%
Service 1: Proficiency Rating	95%	92%
Service 2: Aggregate Value of ChemCentre Components as a ratio of R&D sold to internal R&D	60/40	29/71
Service 2: Client Satisfaction	80%	81%
Service 3: Emergency Response Resolution Time	4 hours	3.3 hours
Key Efficiency Indicators		
Service 1: Average cost/hour	\$232	\$219
Service 2: Average cost/hour	\$242	\$233
Service 3: Average cost/hour	\$297	\$315

Performance information relating to the services provided is presented at pages 70 to 74 of this report.

AGENCY PERFORMANCE

Significant Issues Impacting the Agency

ChemCentre has a statutory obligation to provide essential chemical and forensic services to ensure WA remains safe and prosperous. It plays a key role in matters of public and environmental health, justice, safety and security. Within its areas of expertise, ChemCentre contributes to scientific education and knowledge in WA and operates a successful consulting business. ChemCentre provides services to government and industry clients, but the ultimate beneficiaries of its services are the people of Western Australia.

The business model used for delivering ChemCentre's services has been reviewed and changed this year, successfully enabling the organisation to become more financially sustainable. One of these opportunities was the transition of the National Measurement Institute (NMI) laboratory, instruments, staff and clients based in Kensington to ChemCentre. This transition has resulted in an increased client base, instrument fleet and analytical capability. We are optimistic that this will also prove to be financially beneficial for ChemCentre.

The lift in the freeze on government employment enabled essential vacancies to be filled, resulting in smoother operations. These operations include the completion, or near completion, of a number of projects as well as the ability to service new Research and Development (R&D) projects that ChemCentre has been awarded. These R&D projects will assist the state to manage any environmental risks associated with closed mines, improve access to international markets for our primary producers, and improve the occupational health and safety of our underground mine workforce.

This year, our workload in dealing with coronial inquests and police matters has dramatically increased.

Ongoing cultural change in Western Australia means more people are requiring rapid burial of deceased family members. This has caused a notable increase in the number of urgent coronial cases and has resulted in ChemCentre analysing over 500 urgent cases this year, compared to about 200 per year in recent years.

The influx of large quantities of high purity methamphetamine into WA in 2016/17 and the focus of police investigations on these has reduced the number of clandestine laboratories detected that require investigation. This has enabled ChemCentre to redirect resources away from time-consuming clan lab operations into other areas of high demand.

Changes in Written Law

The *Road Traffic Legislation Amendment Act 2016* became law on 10 March 2017. Under this Act, WA Police may require compulsory blood or urine tests from drivers, or suspected drivers, involved in an accident that causes death or serious injury. These samples are analysed by ChemCentre for substances that may have influenced the accident. The new Act also requires that both 'A' and 'B' samples be held by ChemCentre – the 'A' sample is used for initial analysis and the 'B' sample is held for further analysis and confirmation of results. Previously, test subjects were given the 'B' sample, causing difficulties with maintaining sample integrity.

Roadside drug testing protocols were also changed. All positive roadside tests taken by WA Police now go to ChemCentre for confirmation. ChemCentre provides the rigorous analytical testing required for prosecution in court.

The *Medicines and Poisons Act 2014* and *Medicines and Poisons Regulations 2016* came into force in January 2017, replacing the *Poisons Act 1964* and *Poisons Regulations 1965*. Under the new Act, there have been changes to the definition of New Psychoactive Substances (NPS), which has affected the way WA Police deal with these substances and will result in a smaller subset of NPS coming to ChemCentre for analysis. The challenge for law enforcement and public health will be to ensure the level of knowledge and understanding around the NPS entering our community is kept current.

AUDITOR'S OPINION



Auditor General

INDEPENDENT AUDITOR'S REPORT

To the Parliament of Western Australia

CHEMISTRY CENTRE (WA)

Report on the Financial Statements

Opinion

I have audited the financial statements of the Chemistry Centre (WA) which comprise the Statement of Financial Position as at 30 June 2017, the Statement of Comprehensive Income, Statement of Changes in Equity, Statement of Cash Flows for the year then ended, and Notes comprising a summary of significant accounting policies and other explanatory information.

In my opinion, the financial statements are based on proper accounts and present fairly, in all material respects, the operating results and cash flows of the Chemistry Centre (WA) for the year ended 30 June 2017 and the financial position at the end of that period. They are in accordance with Australian Accounting Standards, the *Financial Management Act 2006* and the Treasurer's Instructions.

Basis for Opinion

I conducted my audit in accordance with the Australian Auditing Standards. My responsibilities under those standards are further described in the *Auditor's Responsibilities for the Audit of the Financial Statements* section of my report. I am independent of the Centre in accordance with the *Auditor General Act 2006* and the relevant ethical requirements of the Accounting Professional and Ethical Standards Board's APES 110 *Code of Ethics for Professional Accountants* (the Code) that are relevant to my audit of the financial statements. I have also fulfilled my other ethical responsibilities in accordance with the Code. I believe that the audit evidence I have obtained is sufficient and appropriate to provide a basis for my opinion.

Responsibility of the Board for the Financial Statements

The Board is responsible for keeping proper accounts, and the preparation and fair presentation of the financial statements in accordance with Australian Accounting Standards, the *Financial Management Act 2006* and the Treasurer's Instructions, and for such internal control as the Board determines is necessary to enable the preparation of financial statements that are free from material misstatement, whether due to fraud or error.

In preparing the financial statements, the Board is responsible for assessing the agency's ability to continue as a going concern, disclosing, as applicable, matters related to going concern and using the going concern basis of accounting unless the Western Australian Government has made policy or funding decisions affecting the continued existence of the Centre.

Auditor's Responsibility for the Audit of the Financial Statements

As required by the *Auditor General Act 2006*, my responsibility is to express an opinion on the financial statements. The objectives of my audit are to obtain reasonable assurance about whether the financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditor's report that includes my opinion. Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with Australian Auditing Standards will always detect a material misstatement when it exists. Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of the financial statements.

Page 1 of 4

7th Floor Albert Facey House 469 Wellington Street Perth WA 6000 TEL: 98 6557 7500 FAX: 98 6557 7500

As part of an audit in accordance with Australian Auditing Standards, I exercise professional judgment and maintain professional scepticism throughout the audit. I also:

- Identify and assess the risks of material misstatement of the financial statements, whether due to fraud or error, design and perform audit procedures responsive to those risks, and obtain audit evidence that is sufficient and appropriate to provide a basis for my opinion. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control.
- Obtain an understanding of internal control relevant to the audit in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the agency's internal control.
- Evaluate the appropriateness of accounting policies used and the reasonableness of accounting estimates and related disclosures made by the Board.
- Conclude on the appropriateness of the Board's use of the going concern basis of accounting and, based on the audit evidence obtained, whether a material uncertainty exists related to events or conditions that may cast significant doubt on the agency's ability to continue as a going concern. If I conclude that a material uncertainty exists, I am required to draw attention in my auditor's report to the related disclosures in the financial statements or, if such disclosures are inadequate, to modify my opinion. My conclusions are based on the audit evidence obtained up to the date of my auditor's report.
- Evaluate the overall presentation, structure and content of the financial statements, including the disclosures, and whether the financial statements represent the underlying transactions and events in a manner that achieves fair presentation.

I communicate with the Board regarding, among other matters, the planned scope and timing of the audit and significant audit findings, including any significant deficiencies in internal control that I identify during my audit.

Report on Controls

Opinion

I have undertaken a reasonable assurance engagement on the design and implementation of controls exercised by the Chemistry Centre (WA). The controls exercised by the Centre are those policies and procedures established by the Board to ensure that the receipt, expenditure and investment of money, the acquisition and disposal of property, and the incurring of liabilities have been in accordance with legislative provisions (the overall control objectives).

My opinion has been formed on the basis of the matters outlined in this report.

In my opinion, in all material respects, the controls exercised by the Chemistry Centre (WA) are sufficiently adequate to provide reasonable assurance that the receipt, expenditure and investment of money, the acquisition and disposal of property and the incurring of liabilities have been in accordance with legislative provisions during the year ended 30 June 2017.

The Board's Responsibilities

The Board is responsible for designing, implementing and maintaining controls to ensure that the receipt, expenditure and investment of money, the acquisition and disposal of property, and the incurring of liabilities are in accordance with the *Financial Management Act 2006*, the Treasurer's Instructions and other relevant written law.

Page 2 of 4

AUDITOR'S OPINION

Auditor General's Responsibilities

As required by the *Auditor General Act 2006*, my responsibility as an assurance practitioner is to express an opinion on the suitability of the design of the controls to achieve the overall control objectives and the implementation of the controls as designed. I conducted my engagement in accordance with Standard on Assurance Engagements ASAE 3150 *Assurance Engagements on Controls* issued by the Australian Auditing and Assurance Standards Board. That standard requires that I comply with relevant ethical requirements and plan and perform my procedures to obtain reasonable assurance about whether, in all material respects, the controls are suitably designed to achieve the overall control objectives and the controls, necessary to achieve the overall control objectives, were implemented as designed.

An assurance engagement to report on the design and implementation of controls involves performing procedures to obtain evidence about the suitability of the design of controls to achieve the overall control objectives and the implementation of those controls. The procedures selected depend on my judgement, including the assessment of the risks that controls are not suitably designed or implemented as designed. My procedures included testing the implementation of those controls that I consider necessary to achieve the overall control objectives.

I believe that the evidence I have obtained is sufficient and appropriate to provide a basis for my opinion.

Limitations of Controls

Because of the inherent limitations of any internal control structure it is possible that, even if the controls are suitably designed and implemented as designed, once the controls are in operation, the overall control objectives may not be achieved so that fraud, error, or noncompliance with laws and regulations may occur and not be detected. Any projection of the outcome of the evaluation of the suitability of the design of controls to future periods is subject to the risk that the controls may become unsuitable because of changes in conditions.

Report on the Key Performance Indicators

Opinion

I have undertaken a reasonable assurance engagement on the key performance indicators of the Chemistry Centre (WA) for the year ended 30 June 2017. The key performance indicators are the key effectiveness indicators and the key efficiency indicators that provide performance information about achieving outcomes and delivering services.

In my opinion, in all material respects, the key performance indicators of the Chemistry Centre (WA) are relevant and appropriate to assist users to assess the Centre's performance and fairly represent indicated performance for the year ended 30 June 2017.

The Board's Responsibility for the Key Performance Indicators

The Board is responsible for the preparation and fair presentation of the key performance indicators in accordance with the *Financial Management Act 2006* and the Treasurer's Instructions and for such internal control as the Board determines necessary to enable the preparation of key performance indicators that are free from material misstatement, whether due to fraud or error.

In preparing the key performance indicators, the Board is responsible for identifying key performance indicators that are relevant and appropriate having regard to their purpose in accordance with Treasurer's Instruction 904 *Key Performance Indicators*.

Auditor General's Responsibility

As required by the *Auditor General Act 2006*, my responsibility as an assurance practitioner is to express an opinion on the key performance indicators. The objectives of my engagement are to obtain reasonable assurance about whether the key performance indicators are relevant and appropriate to assist users to assess the agency's performance and whether the key performance indicators are free from material misstatement, whether due to fraud or error, and to issue an auditor's report that includes my opinion.

I conducted my engagement in accordance with Standard on Assurance Engagements ASAE 3000 *Assurance Engagements Other than Audits or Reviews of Historical Financial Information* issued by the Australian Auditing and Assurance Standards Board. That standard requires that I comply with relevant ethical requirements relating to assurance engagements.

An assurance engagement involves performing procedures to obtain evidence about the amounts and disclosures in the key performance indicators. It also involves evaluating the relevance and appropriateness of the key performance indicators against the criteria and guidance in Treasurer's Instruction 904 for measuring the extent of outcome achievement and the efficiency of service delivery. The procedures selected depend on my judgement, including the assessment of the risks of material misstatement of the key performance indicators. In making these risk assessments I obtain an understanding of internal control relevant to the engagement in order to design procedures that are appropriate in the circumstances.

I believe that the evidence I have obtained is sufficient and appropriate to provide a basis for my opinion.

My Independence and Quality Control Relating to the Reports on Controls and Key Performance Indicators

I have complied with the independence requirements of the *Auditor General Act 2006* and the relevant ethical requirements relating to assurance engagements. In accordance with ASQC 1 *Quality Control for Firms that Perform Audits and Reviews of Financial Reports and Other Financial Information, and Other Assurance Engagements*, the Office of the Auditor General maintains a comprehensive system of quality control including documented policies and procedures regarding compliance with ethical requirements, professional standards and applicable legal and regulatory requirements.

Matters Relating to the Electronic Publication of the Audited Financial Statements and Key Performance Indicators

This auditor's report relates to the financial statements and key performance indicators of the Chemistry Centre (WA) for the year ended 30 June 2017 included on the Centre's website. The Centre's management is responsible for the integrity of the Centre's website. This audit does not provide assurance on the integrity of the Centre's website. The auditor's report refers only to the financial statements and key performance indicators described above. It does not provide an opinion on any other information which may have been hyperlinked to/from these financial statements or key performance indicators. If users of the financial statements and key performance indicators are concerned with the inherent risks arising from publication on a website, they are advised to refer to the hard copy of the audited financial statements and key performance indicators to confirm the information contained in this website version of the financial statements and key performance indicators.



PATRICK ARULSINGHAM
ACTING ASSISTANT AUDITOR GENERAL FINANCIAL AUDIT
Delegate of the Auditor General for Western Australia
Perth, Western Australia
30 August 2017

Financial Statements

Certification of Financial Statements

For the year ended 30 June 2017

The accompanying financial statements of ChemCentre have been prepared in compliance with the provisions of the *Financial Management Act 2006* from proper accounts and records to present fairly the financial transactions for the financial year ended 30 June 2017 and the financial position as at 30 June 2017.

At the date of signing we are not aware of any circumstances which would render the particulars included in the financial statements misleading or inaccurate.



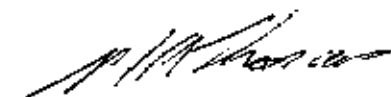
Li Chen
A/Chief Finance Officer
 Date: 29 August 2017



Peter McCafferty
Chief Executive Officer
 Date: 29 August 2017



David Blyth
Chair
Finance & Growth Committee
Member of Governing Board
 Date: 29 August 2017



Mark Thomas
Chair
Risk Committee
Member of Governing Board
 Date: 29 August 2017

FINANCIAL STATEMENTS

Statement of Comprehensive Income For the year ended 30 June 2017

	Note	2017 \$'000	2016 \$'000
INCOME			
Revenue			
Provision of services	7	17,832	15,920
Interest revenue	8	55	32
Other revenue	9	12	11
Total income		17,899	15,963
EXPENSES			
Expenses			
Employee benefits expense	10	13,358	12,741
Supplies and services	11	1,514	1,496
Depreciation and amortisation expense	12	1,253	1,289
Accommodation expenses	13	5,711	5,770
Other expenses	14	3,969	3,213
Total expenses		25,805	24,509
Loss before grants and subsidies from State Government		(7,906)	(8,546)
Service appropriation	16	7,377	7,805
Profit/(loss) before income tax expense		(529)	(741)
Income tax benefit/(expense)	32(a)	(45)	264
Profit/(loss) after income tax expense		(574)	(477)
Profit/(loss) for the year		(574)	(477)
Total comprehensive income for the year		(574)	(477)

See also note 30 'explanatory statement'.

See also note 39 'schedule of Income and Expense by Service'.

The Statement of Comprehensive Income should be read in conjunction with the accompanying notes.

FINANCIAL STATEMENTS

Statement of Financial Position For the year ended 30 June 2017

	Note	2017 \$'000	2016 \$'000
ASSETS			
Current assets			
Cash and cash equivalents	28(a)	1,903	1,867
Prepayments	18	331	372
Receivables	17	2,655	2,111
Amounts receivable for services	19	560	560
Total current assets		5,449	4,910
Non-current assets			
Property, plant and equipment	20	3,863	2,671
Intangible assets	21	607	778
Sinking fund	22	2,170	1,859
Deferred tax asset	32(d)	1,020	1,066
Total non-current assets		7,660	6,374
TOTAL ASSETS		13,109	11,284
LIABILITIES			
Current liabilities			
Payables	24	1,271	704
Provisions	25	2,464	2,638
Other current liabilities	26	915	824
Current tax liabilities	32(c)	0	0
Total current liabilities		4,650	4,166

FINANCIAL STATEMENTS

Statement of Financial Position For the year ended 30 June 2017

	Note	2017 \$'000	2016 \$'000
Non-current liabilities			
Provisions	25	864	796
Deferred tax liability	32(d)	0	1
Total non-current liabilities		864	797
TOTAL LIABILITIES		5,514	4,963
NET ASSETS		7,595	6,321
EQUITY			
Contributed equity	27	9,286	7,438
Retained earnings		(1,691)	(1,117)
TOTAL EQUITY		7,595	6,321

See also note 30 'explanatory statement'.

The Statement of Financial Position should be read in conjunction with the accompanying notes.

FINANCIAL STATEMENTS

Statement of Changes in Equity For the year ended 30 June 2017

	Note	Contributed equity \$000	Reserves \$000	Retained earnings \$000	Total Equity \$000
Balance at 1 July 2015		6,143	-	(640)	5,503
Total comprehensive income for the year			-	(477)	(477)
Transactions with owners in their capacity as owners:					
Capital appropriation		1,300	-	-	1,300
Other contributions by owners		-	-	-	-
Distributions to owners		(5)	-	-	(5)
Total		1,295	-	(477)	1,295
Balance at 30 June 2016		7,438	-	(1,117)	6,321
Balance at 1 July 2016	27	7,438	-	(1,117)	6,321
Total comprehensive income for the year			-	(574)	(574)
Transactions with owners in their capacity as owners:					
Capital appropriation		1,848	-	-	1,848
Other contributions by owners		-	-	-	-
Distributions to owners		-	-	-	-
Total		-	-	-	-
Balance at 30 June 2017	27	9,286	-	(1,691)	7,595

See also note 30 'explanatory statement'.

The Statement of Changes in Equity should be read in conjunction with the accompanying notes.

FINANCIAL STATEMENTS

Statement of Changes in Equity For the year ended 30 June 2017

	Note	2017 \$'000	2016 \$'000
CASH FLOWS FROM OPERATING ACTIVITIES			
Receipts			
Provision of services		17,391	14,645
GST receipts on services		1,739	1,465
Payments			
Employee benefits		(13,391)	(13,012)
Accommodation		(5,661)	(5,720)
GST payments on purchases		(1,084)	(1,143)
GST payments to taxation authority		(624)	(481)
Other payments		(5,571)	(5,133)
Net cash used in operating activities	28	(7,201)	(9,379)
CASH FLOWS FROM INVESTING ACTIVITIES			
Purchase of non-current physical assets		(1,988)	(841)
Net cash used in investing activities		(1,988)	(841)
CASH FLOWS FROM STATE GOVERNMENT			
Grants and subsidies		9,225	9,100
Net cash provided by State Government		9,225	9,100
Net increase/(decrease) in cash and cash equivalents		36	(1,120)
Cash and cash equivalents at the beginning of year		1,867	2,987
CASH AND CASH EQUIVALENTS AT THE END OF YEAR		1,903	1,867

See also note 30 'explanatory statement'.

The Statement of Cash Flows should be read in conjunction with the accompanying notes.

FINANCIAL STATEMENTS

Notes to the Financial Statements

1. Australian Accounting Standards

General

ChemCentre's financial statements for the year ended 30 June 2017 have been prepared in accordance with Australian Accounting Standards. The term 'Australian Accounting Standards' includes Standards and interpretations issued by the Australian Accounting Standards Board (AASB).

ChemCentre has adopted any applicable new and revised Australian Accounting Standards from their operative dates.

Early adoption of standards

ChemCentre cannot early adopt an Australian Accounting Standard or Interpretation unless specifically permitted by TI 1101 'Application of Australian Accounting Standards and Other Pronouncements'. No Australian Accounting Standards and Interpretations that have been issued or amended but are not yet effective have been early adopted by ChemCentre for the annual reporting year ended 30 June 2017.

2. Summary of significant accounting policies

(a) General statement

The financial statements constitute a general purpose financial report which has been prepared in accordance with the Australian Accounting Standards, the Framework, Statements of Accounting Concepts and other authoritative pronouncements of the Australian Accounting Standards Board as applied by the Treasurer's instructions. Several of these are modified by the Treasurer's instructions to vary application, disclosure, format and wording.

The *Financial Management Act 2006* and the Treasurer's Instructions are legislative provisions governing the preparation of financial statements and take precedence over the Accounting Standards, the Framework, Statements of Accounting Concepts and other authoritative pronouncements of the Australian Accounting Standards Board.

Where modification is required and has a material or significant financial effect upon the reported results, details of that modification and the resulting financial effect are disclosed in the notes to the financial statements.

(b) Basis of preparation

The financial statements have been prepared on the accrual basis of accounting using the historical cost convention. ChemCentre is a for profit entity.

The accounting policies adopted in the preparation of the financial statements have been consistently applied throughout all years presented unless otherwise stated.

The financial statements are presented in Australian dollars and all values are rounded to the nearest thousand dollars (\$'000).

Note 3 'Judgements made by management in applying accounting policies' discloses judgements that have been made in the process of applying ChemCentre's accounting policies resulting in the most significant effect on amounts recognised in the financial statements.

Note 4 'Key sources of estimation uncertainty' discloses key assumptions made concerning the future and other key sources of estimation uncertainty at the end of the reporting year, that have a significant risk of causing a material adjustment to the carrying amounts of assets and liabilities within the next financial year.

(c) Contributed equity

AASB Interpretation 1038 'Contribution by Owners Made to Wholly Owned Public Sector Entities' requires transfers, other than the result of a restructure of administrative arrangements, in the nature of equity contributions to be designated by the Government (the owner) as contributions by the owners (at the time of, or prior to transfer) before such transfers can be recognised as equity contributions. Capital contributions (appropriations) have been designated as contributions by owners by Treasury Instruction (TI) 955 'Contributions by Owners made to Wholly Owned Public Sector Entities' and have been credited directly to Contributed Equity.

FINANCIAL STATEMENTS

Notes to the Financial Statements For the year ended 30 June 2017 continued

Transfers of net assets to/from other agencies as a result of a restructure of administrative arrangements are accounted for as distributions to owners and contributions by owners respectively. *Refer to Note 27 'Equity'.*

(d) Reporting entity

The reporting entity comprises the Chemistry Centre (WA) referred to as ChemCentre. There are no Related Bodies. *See Note 35 'Related Bodies'.*

(e) Income

Revenue Recognition

Revenue is measured at the fair value of consideration received or receivable. Revenue is recognised for the major business activities as follows:

Provision of services

Revenue is recognised on delivery of the service to the client or by reference to the stage of completion of the transaction.

Interest

Revenue is recognized as the interest accrues.

Service appropriations

Service appropriations are accrual amounts reflecting the net cost of services delivered. The appropriation revenue comprises a cash component and a receivable (asset). The receivable holding account comprises of the depreciation expense for the year and any agreed increase in leave liability during the year.

Grants, donations, gifts and other non-reciprocal contributions

Revenue is recognised at fair value and when ChemCentre obtains control over the assets comprising of the contributions, usually when cash is received.

Other non-reciprocal contributions that are not contributions by owners are recognised at their fair value. Contributions of services are only recognised when a fair value can be reliably determined and the services would be purchased if not donated.

Where contributions are recognised as revenues during the reporting year and were obtained on the condition that they were to be expended in a particular

manner or used over a particular period, and those conditions were undischarged as at the balance sheet date, the nature of, and amounts pertaining to, those undischarged conditions are disclosed in the notes as Revenue Received in Advance. *See Note 26 'Other Current Liabilities'.*

Gains

Gains may be realised or unrealised and are usually recognised on a net basis. These include gains arising on the disposal of non-current assets.

(f) Income tax

ChemCentre operates within the National Tax Equivalent Regime ("NTER") whereby an equivalent amount in respect of income tax is payable to the WA Treasury. The calculation of the liability in respect of income tax is governed by NTER guidelines and directions approved by Government.

As a consequence of participation in the NTER, ChemCentre is required to comply with AASB 112 'Income Taxes'.

The income tax expense equivalent, or income, for the year is the tax payable on the current year's taxable income adjusted by changes in deferred tax assets and liabilities attributable to temporary differences between the tax bases of assets and liabilities and their carrying amounts in the financial statements, and to unused tax losses.

Deferred tax assets and liabilities are recognised for temporary differences at the tax rate expected to apply when the assets are recovered or liabilities settled, based on those tax rates which are enacted or substantively enacted. The relevant tax rates are applied to the cumulative amounts of deductible and taxable temporary differences to measure the deferred tax asset or liability. An exception is made for certain temporary differences arising from the initial recognition of an asset or liability. No deferred tax asset or liability is recognised in relation to these temporary differences if they arose in a transaction, other than a business combination, that at the time of the transaction did not affect either accounting profit or taxable profit or loss.

Deferred tax assets are recognised for deductible temporary differences and unused tax losses only if it is probable that future taxable amounts will be available to utilise those temporary differences and losses.

FINANCIAL STATEMENTS

Notes to the Financial Statements For the year ended 30 June 2017 continued

Current and deferred tax balances attributable to amounts recognised directly in equity are also recognised directly in equity.

(g) Property, plant and equipment and infrastructure

Capitalisation/expensing of assets

Items of property, plant and equipment costing \$400 or more are recognised as assets and the cost of utilising assets is expensed (depreciated) over their useful lives. Items of property, plant and equipment and infrastructure costing under \$400 are capitalised only if they form part of a group of similar items which is significant in total. Otherwise they are expensed directly to the Statement of Comprehensive Income.

Initial recognition and measurement

All items of property, plant and equipment are initially recognised at cost.

For items of property, plant and equipment acquired at no cost or for nominal cost, cost is their fair value at the date of acquisition.

Subsequent measurement

After recognition as an asset, ChemCentre uses the cost model for all property, plant and equipment. All items of property, plant and equipment are carried at cost less accumulated depreciation and accumulated impairment losses, if any.

Depreciation

All non-current assets that have a limited useful life are systematically depreciated over their estimated useful lives in a manner that reflects the consumption of their future economic benefits.

Depreciation on assets is calculated using the straight line method, using rates which are reviewed annually. Estimated useful lives for each class of depreciable asset are:

Plant & scientific equipment	7-10 years
Office equipment	5 years

(h) Intangible assets

Capitalisation/expensing of assets

Acquisitions of intangible assets costing \$400 or more and internally generated intangible assets costing \$50,000 or more are capitalised. The cost of utilising the assets is expensed (amortised) over their useful life. Costs incurred of less than \$400 are immediately expensed directly to the Statement of Comprehensive Income.

All acquired and internally developed intangible assets are initially measured at cost. For assets acquired at no cost or for nominal cost, cost is their fair value at the date of acquisition.

The cost model is applied for subsequent measurement requiring the asset to be carried at cost less any accumulated amortisation and accumulated impairment losses.

Amortisation for intangible assets with finite useful lives is calculated for the period of the expected benefit (estimated useful life) on the straight line basis using rates which are reviewed annually. All intangible assets controlled by ChemCentre have a finite useful life and zero residual value. The expected useful lives for each class of intangible asset are:

Software ^(a)	5 years
-------------------------	---------

(a) Software is not integral to the operation of any related hardware.

Computer software

Software that is an integral part of the related hardware is treated as property, plant and equipment. Software that is not an integral part of the related hardware is treated as an intangible asset. Software costing less than \$400 is expensed in the year of acquisition.

Website costs

Website costs are charged as expenses when they are incurred unless they relate to the acquisition or development of an asset when they may be capitalised and amortised. Generally, costs in relation to feasibility studies during the planned

FINANCIAL STATEMENTS

Notes to the Financial Statements For the year ended 30 June 2017 continued

phase of a website and ongoing costs of maintenance during the operating phase are expensed. Costs incurred in building or enhancing a website that can be reliably measured, are capitalised to the extent that they represent probable future economic benefits.

(i) Research and development costs

Research costs are expensed as incurred. Development costs incurred for an individual project are carried forward when the future recoverability can reasonably be regarded as assured and the total project costs are likely to exceed \$50,000. Other development costs are expensed as incurred.

(j) Impairment of assets

Property, plant and equipment, infrastructure and intangible assets are tested for any indication of impairment at the end of each reporting year. Where there is an indication of impairment, the recoverable amount is estimated. Where the recoverable amount is less than the carrying amount, the asset is considered impaired and is written down to the recoverable amount and an impairment loss is recognised in profit or loss. Unless an asset has been identified as a surplus asset, the recoverable amount is the higher of an asset's fair value less costs to sell and depreciated replacement cost.

The risk of impairment is generally limited to circumstances where an asset's depreciation is materially understated, where the replacement cost is falling or where there is a significant change in useful life. Each relevant class of assets is reviewed annually to verify that the accumulated depreciation/amortisation reflects the level of consumption or expiration of asset's future economic benefits and to evaluate any impairment risk from falling replacement costs.

The recoverable amount of assets identified as surplus assets is the higher of fair value less costs to sell and the present value of future cash flows expected to be derived from the asset. Surplus assets carried at fair value have no risk of material impairment where fair value is determined by reference to market-based evidence. Where fair value is determined by reference to depreciated replacement cost, surplus assets are at risk of impairment and the recoverable amount is

measured. Surplus assets at cost are tested for indications of impairment at each balance sheet date.

See Note 23 'Impairment of assets' for the outcome of impairment reviews and testing.

See Note 2(n) 'Receivables' and Note 17 'Receivables' for impairment of receivables.

(k) Leases

ChemCentre currently holds operating leases (*see Note 28*). Lease payments are expensed on a straight line basis over the lease term as this represents the pattern of benefits derived from the leased properties.

(l) Financial Instruments

In addition to cash and cash equivalents, ChemCentre has two categories of financial instrument:

- Loans and Receivables;
- Financial liabilities measured at amortised cost.

These have been disaggregated into the following classes:

Financial Assets

- Cash and cash equivalents
- Receivables
- Amounts receivable for services

Financial Liabilities

- Payables

Initial recognition and measurement is at fair value. The transaction cost or face value is equivalent to the fair value. Subsequent measurement is at amortised cost using the effective interest method.

The fair value of short-term receivables and payables is the transaction cost or the face value because there is no interest rate applicable and subsequent measurement is not required as the effect of discounting is not material.

FINANCIAL STATEMENTS

Notes to the Financial Statements For the year ended 30 June 2017 continued

(m) Cash and cash equivalents

For the purposes of the Cash Flow Statement, cash and cash equivalents includes restricted cash and cash equivalents. These include cash on hand and short-term deposits with original maturities of three months or less that are readily convertible to a known amount of cash and which are subject to insignificant risk of changes in value.

(n) Receivables

Receivables are recognised and carried at original invoice amount less an allowance for any uncollectible amounts (i.e. impairment). The collectability of receivables is reviewed on an ongoing basis and any receivables identified as uncollectible are written off against the allowance account. The allowance for uncollectible amounts (doubtful debts) is raised when there is objective evidence that ChemCentre will not be able to collect its debts. The carrying amount is equivalent to fair value as it is due for settlement within 30 days. See Note 2(l) 'Financial Instruments' and Note 17 'Receivables'.

(o) Payables

Payables are recognised when ChemCentre becomes obliged to make future payments as a result of a purchase of assets or services at the amounts payable. The carrying amount is equivalent to fair value, as they are generally settled within 30 days. See Note 2(l) 'Financial Instruments and Note 24 'Payables'.

(p) Provisions

Provisions are liabilities of uncertain timing and amount and are recognised where there is a present legal or constructive obligation as a result of a past event and when the outflow of resources embodying economic benefits is probable and a reliable estimate can be made of the amount of the obligation. Provisions are reviewed at each reporting year. See Note 25 'Provisions'.

(i) Provisions - employee benefits

Annual leave

ChemCentre has adopted AASB 119 *Employee Benefits (2011)* with a date of initial application of 1 July 2013. Annual leave is not expected to be settled wholly within 12 months after the end of the reporting year and is therefore considered to be another long-term employee benefit. The annual leave liability is recognised and measured at the present value of amounts expected to be paid when the liabilities are settled using the remuneration rate expected to apply at the time of settlement.

When assessing expected future payments consideration is given to expected future wage and salary levels including non-salary components such as employer superannuation contributions, as well as the experience of employee departures and periods of service. The expected future payments are discounted using market yields at the end of the reporting year on corporate bonds with terms to maturity that match, as closely as possible, the estimated future cash outflows.

The provision for annual leave is classified as a current liability as ChemCentre does not have an unconditional right to defer settlements of the liability for at least 12 months after the end of the reporting period.

Long service leave

Long service leave is not expected to be settled wholly within 12 months after the end of the reporting year and is therefore recognised and measured at the present value of amounts expected to be paid when the liabilities are settled using the remuneration rate expected to apply at the time of settlement.

When assessing expected future payments consideration is given to expected future wage and salary levels including non-salary components such as employer superannuation contribution, as well as the experience of employee departure and periods of service. The expected future payments are discounted using market yields at the end of the reporting year on corporate bonds with terms to maturity that match, as closely as possible, the estimated future cash outflows.

FINANCIAL STATEMENTS

Notes to the Financial Statements For the year ended 30 June 2017 continued

Unconditional long service leave provisions are classified as current liabilities as ChemCentre does not have an unconditional right to defer settlement of the liability for at least 12 months after the end of the reporting year. Pre-conditional and conditional long service leave provisions are classified as non-current liabilities because ChemCentre has an unconditional right to defer the settlement of the liability until the employee has completed the requisite years of service.

Purchased leave

The provision for purchased leave relates to Public Service employees who have entered into an agreement to self-fund up to an additional four weeks leave per calendar year. The provision recognises the value of salary set aside for employees and is measured at the nominal amounts expected to be paid when the liabilities are settled. This liability is measured on the same basis as annual leave.

Superannuation

The Government Employees Superannuation Board (GESB) in accordance with legislative requirements administers public sector superannuation arrangements in Western Australia.

Employees may contribute to the Pension Scheme, a defined benefit pension scheme now closed to new members, or to the Gold State Superannuation Scheme (GSS), a defined benefit lump sum scheme also closed to new members.

Employees commencing employment prior to 16 April 2007 who were not members of either the Pension or the GSS Schemes became non-contributory members of the West State Superannuation Scheme (WSS). Employees commencing employment on or after 16 April 2007 became members of the GESB Super Scheme (GESBS). From 30 March 2012, existing members of the WSS or GESBS and new employees have been able to choose their preferred superannuation fund provider. ChemCentre makes contribution to GESB or other fund providers on behalf of employees in compliance with the *Commonwealth Government's Superannuation Guarantee (Administration) Act 1992*. Contributions to these accumulation schemes extinguish ChemCentre's liability for superannuation charges in respect of employees who are not members of the Pension Scheme or GSS.

The GSS, the WSS, and the GESBS, where the current service superannuation charge is paid by ChemCentre to the GESB are defined contribution schemes. The liabilities for current service superannuation charge under the GSS, the WSS, and the GESBS are extinguished by the concurrent payment of employer contributions to the GESB.

The GSS is a defined benefit scheme for the purpose of employees and whole-of-government reporting. However, from ChemCentre's perspective, apart from the pre-transfer benefits, it is a defined contribution plan under AASB 119.

See also Note 2(q) 'Superannuation expense'.

(ii) Provisions - Other

Employment on costs

Employment on-costs, including workers' compensation insurance and payroll tax, are not employee benefits and are recognised separately as liabilities and expenses when the employment to which they relate has occurred.

Employment on-costs are not included as part of ChemCentre's 'Employee benefits expense' and the related liability is included in Employment on-costs provision. *See Note 14 'Other expenses' and Note 25 'Provisions'.*

(q) Superannuation expense

The superannuation expense in the Statement of Comprehensive Income comprises of employer contribution paid to the GSS (concurrent contributions), the West State Superannuation Scheme, and the GESB Super Scheme.

The GSS Scheme is a defined benefit scheme for the purposes of employees and whole-of-government reporting. However, apart from the transfer benefit, it is a defined contribution plan for agency purposes because the concurrent contributions (defined contributions) made by the agency to GESB extinguishes the agency's obligations to the related superannuation liability.

See also Note 2(p) 'Provisions – employee benefits' under superannuation.

FINANCIAL STATEMENTS

Notes to the Financial Statements For the year ended 30 June 2017 continued

(r) Amounts receivable for services (holding account)

ChemCentre receives appropriation funding on an accrual basis that recognises the full annual cash and non-cash cost of services. The appropriations are paid partly in cash and partly as an asset that is accessible on the emergence of the cash funding requirement to cover asset replacement.

(s) Resources received free of charge or for nominal cost

Resources received free of charge or for nominal cost that can be reliably measured are recognised as at fair value. Where the resource received represents a service that ChemCentre would otherwise pay for, a corresponding expense is recognised. Receipts of assets are recognised in the Statement of Financial Position.

Assets or services received from other State Government agencies are separately disclosed under Income from State Government in the Statement of Comprehensive Income.

(t) Segment information

Segment information has been disclosed by service (*refer Note 39 'Schedule of Income and Expenses by Service'*).

(u) Comparative figures

Comparative figures are, where appropriate, reclassified to be comparable with the figures presented in the current financial year.

3. Judgements made by management in applying accounting policies

The preparation of financial statements requires management to make judgements about the application of accounting policies that have a significant effect on the amounts recognised in the financial statements. ChemCentre evaluates these judgements regularly.

Operating lease commitments

ChemCentre has entered into a number of leases for motor vehicles and a property lease. It has been determined that the lessor retains substantially all the risks and rewards incidental to ownership. Accordingly, these leases have been classified as operating leases.

4. Key sources of estimation uncertainty

Key estimates and assumptions concerning the future are based on historical experience and various other factors that have a significant risk of causing a material adjustment to the carrying amount of assets and liabilities within the next financial year include:

- Estimating useful life and residual values of key assets and intangible assets.

Long service leave

Several estimations and assumptions used in calculating ChemCentre's long service leave provision include expected future salary rates, discount rates, employee retention rates and expected future payments. Changes in these estimations and assumptions may impact on the carrying amount of the long service leave provision.

5. Initial application of Australian Accounting Standards

ChemCentre has applied the following Australian Accounting Standards effective for annual reporting periods beginning on or after 1 July 2016 that impacted on ChemCentre:

- AASB 2015-2 *Amendments to Australian Accounting Standards-Disclosure Initiative: Amendments to AASB 101*
- AASB 2014-4 *Amendments to Australian Accounting Standards-Clarification of Acceptable Methods of Depreciation and Amortisation*
- AASB 1057 *Application of Australian Accounting Standards*
- AASB 2015-6 *Amendment to Australian Accounting Standards-Extending Related Party Disclosures to Not-for-Profit Public Sector Entities*.

6. Future impact of Australian Accounting Standards not yet operative

ChemCentre cannot early adopt an Australian Accounting Standard or Australian Accounting Interpretation unless specifically permitted by TI 1101 'Application of Australian Accounting Standards and Other Pronouncements'. Consequently, ChemCentre has not applied early any of the Australian Accounting Standards that have been issued that may impact ChemCentre. Where applicable, ChemCentre plans to apply these Australian Accounting Standards from their application date.

FINANCIAL STATEMENTS

Notes to the Financial Statements For the year ended 30 June 2017 continued

- *AASB 9 Financial instruments*

This Standard fundamentally changes the way in which financial instruments are classified and measured and also introduces more flexibility so that hedge accounting can be applied to a broader range of risk management activities. The mandatory application date of this Standard is currently 1 January 2018. ChemCentre has not yet determined the application or the potential impact of the Standard.

- *AASB 15 Revenue from Contracts with Customers*

This Standard establishes the principles that the ChemCentre shall apply to report useful information to users of financial statements about the nature, amount, timing and uncertainty of revenue and cash flows arising from a contract with a customer. ChemCentre has not yet determined the application or the potential impact of the Standard.

- *AASB 2015-8 Amendments to Australian Accounting Standards-Effective Date of AASB 15*

This Standard amends the mandatory effective date (applicable date) of AASB 15 *Revenue from Contracts with Customers* so that AASB 15 is required to be applied for annual reporting periods beginning on or after 1 January 2018 instead of 1 January 2017. For Not-For-Profit entities, the mandatory effective date has subsequently been Amended to 1 January 2019 by AASB 2016-7. ChemCentre has not yet determined the application or the potential Impact of AASB 15.

- *AASB 16 Leases*

This Standard features a single lease accounting model for lessees with a host of different transition options and practical expedients. ChemCentre has not yet assessed the impact of the various transition options to determine the option that best suits its objectives. The mandatory application date of this Standard is 1 January 2019.

- *AASB 2016-7 Amendments to Australian Accounting Standards-Deferral of AASB 15 for Not-for-Profit Entities*

This Standard amends the mandatory effective date (applicable date) of AASB 15 and defers the consequential amendments that were originally set out in AASB 2014-5 Amendments to Australian Accounting Standards arising from AASB 15 for not-for-profit entities to annual reporting periods beginning on or after 1 January 2019, instead of 1 January 2018. There is no financial impact.

FINANCIAL STATEMENTS

Notes to the Financial Statements For the year ended 30 June 2017 continued

	2017 \$'000	2016 \$'000
7. Provision of services		
Private sector	5,742	5,654
State government sector	12,090	10,266
ChemCentre invoices clients on a fee for service basis for work performed. The clients are organisations in the private sector and Western Australian State Government Agencies.	17,832	15,920
8. Interest revenue		
Interest revenue	55	32
	55	32
9. Other revenue		
Salary packaging recoveries	12	11
	12	11
10. Employee benefits expense		
Wages and salaries ^{(a)(b)}	10,450	10,055
Superannuation – defined contribution plans	1,332	1,337
Long service leave ^(c)	475	439
Annual leave ^(c)	1,101	910
	13,358	12,741
(a) Includes the value of the fringe benefit to the employee plus the fringe benefits tax component.		
(b) Includes the Board Directors' remuneration due to the legal advice obtained from State Solicitor's Office. The 2015-16 figures have been reinstated for comparison.		
(c) Includes a superannuation contribution component.		
Employment on-costs such as workers' compensation insurance and payroll tax are included at note 14 'Other Expenses'. The employment on-costs liability is included at note 26 'Provisions'.		

FINANCIAL STATEMENTS

Notes to the Financial Statements For the year ended 30 June 2017 continued

	2017	2016
	\$'000	\$'000
11. Supplies and services		
Communications	9	9
Consumables	1,422	1,398
Materials	10	22
Travel	73	67
	1,514	1,496
12. Depreciation and amortisation expense		
Depreciation		
Plant & scientific equipment	816	831
Office equipment	89	108
	905	939
Amortisation		
Software	348	350
Total depreciation and amortisation	1,253	1,289
13. Accommodation expenses		
Property rent	4,365	4,381
Property outgoing	631	706
Repairs and maintenance	149	84
Utilities	566	599
	5,711	5,770

FINANCIAL STATEMENTS

Notes to the Financial Statements For the year ended 30 June 2017 continued

14. Other expenses

Equipment repairs and maintenance	
IT and network maintenance	
External expense e.g. (Department of Mines and Petroleum) services	
Postage, printing and stationery	
Payments to Cooperative Research Centres	
Motor vehicle	
Bad & doubtful debts	
Payroll tax	
Consultant fees	
Staff training and miscellaneous staff expenses	
Other minor expenses	

2017	2016
\$'000	\$'000
869	764
124	96
436	279
198	119
125	125
46	52
(5)	(10)
762	738
412	116
396	339
606	595
3,969	3,213

15. Related Party Transactions

ChemCentre is a wholly owned and controlled entity of the State of Western Australia. In conducting its activities, ChemCentre is required to pay various taxes and levies based on the standard terms and conditions that apply to all tax and levy payers to the State and entities related to State.

Related parties of ChemCentre include:

- All Ministers and their close family members, and their controlled or jointly controlled entities;
- All senior officers and their close family members, and their controlled or jointly controlled entities;
- Other departments and public-sector entities, including related bodies included in the whole of government consolidated financial statements;
- Associates and joint venture, that are included in the whole of government consolidated financial statements; and

- The Government Employee Superannuation Board (GESB).

ChemCentre had no related party transaction with senior officers or their close family members or their controlled entities for disclosure. The related party disclosures are yet to be received from the past and current Ministers. However, ChemCentre had not received direct instruction from the past and current Minister to transact with certain suppliers, therefore it can be inferred that there are no related party transactions with Ministers and their close family members and their controlled or jointly controlled entities.

Significant transactions with government related entities

- Service appropriations (Note 16)
- Capital appropriations (Note 27)
- Superannuation payments to GESB (Note 10)
- Lease rentals payments to the Department of Finance (Note 13).
- Payroll tax payments to the Department of Finance (Note 14).

FINANCIAL STATEMENTS

Notes to the Financial Statements For the year ended 30 June 2017 continued

16. Service Appropriation^{(a)(b)}

Appropriation received during the year

Salaries and Allowance Act 1975

Community Service Obligations (CSO)

Rent and others

2017	2016
\$'000	\$'000
251	246
4,962	3,037
2,164	4,522
7,377	7,805

- (a) Service appropriations are accrual amounts reflecting the net cost of services delivered. The appropriation revenue comprises a cash component and a receivable (asset). The receivable holding account comprises the depreciation expense for the year and any agreed increase in leave liability during the year.
- (b) Where assets or services have been received free of charge or for nominal cost, ChemCentre recognises revenues equivalent to the fair value of the assets and/ or the fair value of those services that can be reliably determined and which would have been purchased if not donated, and those fair values shall be recognised as assets or expenses, as applicable. The exception occurs where the contribution of assets or services are in the nature of contributions by owners, in which case ChemCentre makes the adjustment direct to equity.

17. Receivables

Current

Receivables trading

Receivables sundry

GST income tax credits

Allowance for impairment of receivables

2017	2016
\$'000	\$'000
2,515	1,947
16	69
137	115
(13)	(20)
2,655	2,111
(20)	(30)
2	0
5	10
(13)	(20)

Reconciliation of changes in the allowance for impairment of receivables:

Balance at start of year

Amounts written off during the year

Amount recovered during the year

Balance at end of year

FINANCIAL STATEMENTS

Notes to the Financial Statements For the year ended 30 June 2017 continued

	2017 \$'000	2016 \$'000
Credit Risk		
Ageing of receivables past due but not impaired based on the information provided to senior management, at the balance sheet date:		
Not more than 3 months	119	210
More than 3 months but less than 6 months	-	242
More than 6 months but less than 1 year	-	60
More than 1 year	260	-
Receivables individually determined as impaired at the balance sheet date:		
Carrying amount, before deducting any impairment loss	13	20
Provision for Impairment loss	(13)	(20)
	-	-
Included in the allowance for impairment of receivables, ChemCentre has some debtors the age of which places doubt on their recoverability. A general provision has been made against these debts.		
See also note 2(n) 'Receivables' and note 30 'Financial Instruments'.		
18. Prepayments		
Current		
Moneys paid in advance for services to be performed	331	372
	331	372
19. Amounts receivable for services		
Current		
Represents the non-cash component of services appropriations.		
It is restricted in that it can only be used for asset replacement or payment of leave liability.	560	560

FINANCIAL STATEMENTS

Notes to the Financial Statements For the year ended 30 June 2017 continued

20. Property, plant and equipment

Plant & scientific equipment

At cost

Accumulated depreciation

Office equipment

At cost

Accumulated depreciation

Written down value of plant, equipment and office equipment

2017	2016
\$'000	\$'000
15,760	14,522
(12,172)	(11,940)
3,588	2,582
1,542	1,288
(1,267)	(1,199)
275	89
3,863	2,671

Reconciliations of the carrying amounts of property, plant, equipment and vehicles at the beginning and end of the reporting year are set out below.

2016

Carrying amount 1 July 2015

Additions

Disposals

Depreciation

Carrying amount at end of year

Plant & scientific equipment	Office equipment	Total
\$'000	\$'000	\$'000
2,872	146	3,018
545	51	596
(4)	0	(4)
(831)	(108)	(939)
2,582	89	2,671

2017

Carrying amount 1 July 2016

Additions

Disposals

Depreciation

Carrying amount at end of year

2,582	89	2,671
1,824	275	2,099
(2)	0	(2)
(816)	(89)	(904)
3,588	275	3,863

FINANCIAL STATEMENTS

Notes to the Financial Statements For the year ended 30 June 2017 continued

	2017 \$'000	2016 \$'000
21. Intangible assets		
Laboratory Information Management Computer software development		
At cost	3,087	2,910
Accumulated amortisation	(2,480)	(2,132)
Carrying amount at end of year	607	778
Reconciliation		
Computer software		
Opening carrying amount	778	883
Additions	177	245
Disposals	0	0
Amortisation expense	(348)	(350)
Carrying amount at end of year	607	778
22. Sinking fund		
Amount held by Curtin University for future building repairs and maintenance	2,170	1,859
23. Impairment of assets		
There were no indications of impairment to property, plant and equipment, and intangible assets at 30 June 2017.		
ChemCentre held no goodwill or intangible assets with an indefinite useful life during the reporting year and at balance sheet date there were no intangible assets not yet available for use. There are no surplus assets at 30 June 2017 that have either been classified as non-current assets held for sale or written-off.		
24. Payables		
Current		
Trade payables	657	142
GST payable	180	158
Accrued expenses	418	272
Accrued superannuation	16	132
	1,271	704

See also note 2(o) 'Payables' and note 30 'Financial Instruments Disclosure'.

FINANCIAL STATEMENTS

Notes to the Financial Statements For the year ended 30 June 2017 continued

	2017 \$'000	2016 \$'000
25. Provisions		
Current		
Employee benefits provision		
Annual leave ^{(a)(c)}	1,161	1,210
Long service leave ^{(b)(c)}	1,303	1,428
	2,464	2,638
Non-current		
Long service leave ^{(b)(c)}	864	796
(a) Annual leave liabilities have been classified as current as there is no unconditional right to defer settlement for at least 12 months after the end of the reporting year. Assessments indicate that actual settlement of the liabilities is expected to occur as follows:		
Within 12 months of the end of the reporting year	750	632
More than 12 months after the end of the reporting year	411	578
	1,161	1,210
(b) Long service leave liabilities have been classified as current where there is no unconditional right to defer settlement for at least 12 months after balance sheet date. Assessments indicate that actual settlement of the liabilities is expected to occur as follows:		
Within 12 months of the end of the reporting year	385	136
More than 12 months after the end of the reporting year	1,782	2,088
	2,167	2,224
(c) The settlement of annual and long service leave liabilities gives rise to the payment of employment on-costs including workers' compensation premiums and payroll tax. The provision is measured at the present value of expected future payments. The associated expense, apart from the unwinding of the discount (finance cost), is included at Note 14 'Other expenses'.		

FINANCIAL STATEMENTS

Notes to the Financial Statements For the year ended 30 June 2017 continued

	2017 \$'000	2016 \$'000
26. Other liabilities		
Current		
Revenue received in advance	915	824
	915	824
Revenue in advance relates to funds received from clients in respect of work to be completed within the following 12 months.		
27. Equity		
The Western Australian Government holds the equity interest in ChemCentre on behalf the community.		
Equity represents the residual interest in the net assets of ChemCentre.		
Contributed equity		
Balance at the start of the year	7,438	6,143
Contributions by owners		
Equity Contribution	1,848	1,300
Total contributions by owners	1,848	1,300
Distributions to owners	-	5
Total distributions to owners	-	5
Balance at end of year	9,286	7,438
Retained earnings		
Balance at start of year	(1,117)	(640)
Result for the year	(574)	(477)
Balance at end of year	(1,691)	(1,117)
Total equity at end of year	7,595	6,321

FINANCIAL STATEMENTS

Notes to the Financial Statements For the year ended 30 June 2017 continued

	2017	2016
	\$'000	\$'000
28. Notes to the Cash Flow Statement		
<u>(a) Reconciliation of cash</u>		
Cash at the end of the financial year as shown in the Cash Flow Statement is reconciled to the related items in the Balance Sheet as follows:		
Cash held with Commonwealth Bank	1,902	1,866
Cash on hand	1	1
	1,903	1,867
<u>(b) Reconciliation of profit/(loss) after income tax equivalents to net cash flows provided by/(used in) operating activities</u>		
Profit/(loss) after income tax equivalents	(574)	(477)
Non-cash items:		
Depreciation and amortisation expense	1,253	1,289
Provision for doubtful debts and bad debt written off	(7)	10
Deferred tax asset	46	35
Deferred tax liability	(1)	1
Loss on disposal of assets	2	4
Grants and subsidies from Government	(7,377)	(7,805)
Amounts credited to provision for income tax equivalents	-	-
(Increase)/decrease in assets:		
Current receivables	(537)	(1,289)
Sinking funds	(311)	(287)
Accrued salaries suspended account	-	-
Amounts receivable for services and prepayments	41	(142)
Increase/(decrease) in liabilities:		
Current payables	133	116
Accrued expenses	146	(522)
Employee benefits	(106)	(5)
Revenue in advance	91	(7)
Provision for tax	-	(300)

FINANCIAL STATEMENTS

Notes to the Financial Statements For the year ended 30 June 2017 continued

	2017	2016
	\$'000	\$'000
Net GST receipts/(payments)	(624)	(481)
Change in GST in receivables/payables	624	481
Net cash (used in) operating activities	(7,201)	(9,379)
29. Non-cancellable operating lease commitments		
Commitments in relation to leases contracted for at the end of the reporting year but not recognised in the financial statements are payable as follows:		
Within 1 year	5,151	5,154
Later than 1 year and not later than 5 years	20,566	20,560
Later than 5 years	36,897	42,031
	62,614	67,745

30. Explanatory statement

This statement provides details of any significant variations between estimates and actual results for 2017. Significant variations are considered to be those greater than 5% and greater than a dollar aggregate, being the lower of \$25 million or the dollar aggregate, or as applicable:

- 2.0% multiplied by Total Cost of Services, when compared with variances for revenues, gains and expense line items. Variances relating to changes in asset revaluation surplus are excluded from the definition of major variance.
- 2.0% multiplied by Total Cost of Services, when compared with variances for cash low line items not substantially explained elsewhere in another narrative disclosure.
- 2.0% multiplied by Total Assets when compared with variances for assets, liabilities, and equity line items. Variances relating to cash assets, receivables, payables, contributed equity and accumulated surplus are excluded from the definition of major variance.
- The dollar aggregate calculated from Total Cost of Services and Total Assets is to be based on the lower of the estimate or the prior year actual, as appropriate.

FINANCIAL STATEMENTS

Notes to the Financial Statements For the year ended 30 June 2017 continued

	Variance Note	Original Budget 2017	Actual 2017	Actual 2016	Variance between budget and actual 2017	Variance between actual results for 2017 and 2016
		\$'000	\$'000	\$'000	\$'000	\$'000
INCOME						
Revenue						
Provision of services	1,A	16,946	17,832	15,920	886	1,912
Interest revenue		64	55	32	(9)	23
Other revenue		-	12	11	12	1
Total income		17,010	17,899	15,963	889	1,936
EXPENSES						
Expenses						
Employee benefits expense	B	13,262	13,358	12,741	96	617
Supplies and services	2	2,024	1,514	1,496	(510)	18
Depreciation and amortisation expense		1,218	1,253	1,289	35	(36)
Accommodation expenses		5,790	5,711	5,770	(79)	(59)
Other expenses	3,C	2,677	3,969	3,213	1,292	756
Total expenses		24,971	25,805	24,509	834	1,296
Loss before grants and subsidies from State Government		(7,961)	(7,906)	(8,546)	55	640
Service appropriation	4	6,710	7,377	7,805	667	(428)
Profit/(loss) before income tax expense		(1,251)	(529)	(741)	722	212
Income tax benefit/(expense)		-	(45)	264	(45)	(309)
Profit/(loss) after income tax expense		(1,251)	(574)	(477)	677	(97)
Profit/(loss) for the period		(1,251)	(574)	(477)	677	(97)
Total comprehensive income for the period as at 30 June 2017		(1,251)	(574)	(477)	677	(97)

FINANCIAL STATEMENTS

Notes to the Financial Statements For the year ended 30 June 2017 continued

	Variance Note	Original Budget 2017	Actual 2017	Actual 2016	Variance between budget and actual 2017	Variance between actual results for 2017 and 2016
		\$'000	\$'000	\$'000	\$'000	\$'000
ASSETS						
Current assets						
Cash and cash equivalents		2,799	1,903	1,867	(896)	36
Prepayments		250	331	372	81	(41)
Receivables		1,176	2,655	2,111	1,479	544
Amounts receivable for services		560	560	560	-	-
Total current assets		4,785	5,449	4,910	664	539
Non-current assets						
Property, plant and equipment	5,D	3,200	3,863	2,671	663	1,193
Intangible assets		643	607	778	(36)	(171)
Sinking fund	E	2,210	2,170	1,859	(40)	311
Deferred tax asset		1,166	1,020	1,066	(146)	(46)
Total non-current assets		7,219	7,660	6,374	441	1,286
TOTAL ASSETS		12,004	13,109	11,284	1,105	1,825
LIABILITIES						
Current liabilities						
Payables		592	1,271	704	(679)	567
Provisions		2,631	2,464	2,638	167	(174)
Other current liabilities		1,107	915	824	192	91
Current tax liabilities		-	-	-	-	-

FINANCIAL STATEMENTS

Notes to the Financial Statements For the year ended 30 June 2017 continued

	Variance Note	Original Budget 2017	Actual 2017	Actual 2016	Variance between budget and actual 2017	Variance between actual results for 2017 and 2016
		\$'000	\$'000	\$'000	\$'000	\$'000
Total current liabilities		4,330	4,650	4,166	(320)	484
Non-current liabilities						
Provisions		808	864	796	(56)	68
Deferred tax liability		-	-	1	-	(1)
Total non-current liabilities		808	864	797	(56)	67
TOTAL LIABILITIES		5,138	5,514	4,963	(376)	551
NET ASSETS		6,866	7,595	6,321	(729)	1,274
EQUITY						
Contributed equity		8,938	9,286	7,438	(348)	1,848
Retained earnings		(2,072)	(1,691)	(1,117)	(381)	(574)
TOTAL EQUITY		6,866	7,595	6,321	(729)	1,274

FINANCIAL STATEMENTS

Notes to the Financial Statements For the year ended 30 June 2017 continued

	Variance Note	Original Budget 2017	Actual 2017	Actual 2016	Variance between budget and actual 2017	Variance between actual results for 2017 and 2016
		\$'000	\$'000	\$'000	\$'000	\$'000
CASH FLOWS FROM OPERATING ACTIVITIES						
Receipts						
Provision of services	F	17,111	17,391	14,645	280	2,746
GST receipts on services		1,579	1,739	1,465	160	274
Payments						
Employee benefits		(13,212)	(13,391)	(13,012)	(179)	(379)
Accommodation		(6,045)	(5,661)	(5,720)	384	59
GST payments on purchases		(1,022)	(1,084)	(1,143)	(62)	59
GST payments to taxation authority		(559)	(624)	(481)	(65)	(143)
Other payments	6	(4,706)	(5,571)	(5,133)	(865)	(438)
Net cash used in operating activities		(6,854)	(7,201)	(9,379)	(347)	2,178
CASH FLOWS FROM INVESTING ACTIVITIES						
Purchase of non-current assets	G	(1,500)	(1,988)	(841)	(488)	(1,147)
Net cash used in investing activities		(1,500)	(1,988)	(841)	(488)	(1,147)
CASH FLOWS FROM STATE GOVERNMENT						
Grants and subsidies	7	8,210	9,225	9,100	1,015	125
Net cash provided by State Government		8,210	9,225	9,100	1,015	125
Net increase/(decrease) in cash and cash equivalents		(144)	36	(1,120)	180	1,156
Cash and cash equivalents at the beginning of period		2,943	1,867	2,987	(1,076)	(1,120)
CASH AND CASH EQUIVALENTS AT THE END OF PERIOD		2,799	1,903	1,867	(896)	36

FINANCIAL STATEMENTS

Notes to the Financial Statements For the year ended 30 June 2017 continued

Significant variances between estimate and actual results for the financial year

- 1) Income from fee for service work was over budget by \$0.886 million, due to the additional revenue from State Government for fee for service work in particular the unbudgeted lead contamination analysis for the new Perth Children Hospital.
- 2) The actual decrease of Supplies and Services over the budget reflects changes in the classification of expenses between Supplies and Services and Other Expenses. The main reclassification is administrative expense initially recorded under Supplies and Services in the budget and now recorded under Other Expense for \$0.436 million.
- 3) The actual increase of other expenses over the budget reflects changes in the classification of expenses between Supplies and Services and Other Expense. In addition, in 2016-17, \$0.389 million was spent on strategic consulting to address the then EERC recommendation and strategic R&D projects such as Honey and proteomics projects.
- 4) Service appropriations were over budget by \$0.667 million as the cost and demand model developed by Treasury showed an additional \$0.667 million was required to meet the net cost of service.
- 5) Property, plant and equipment were over budget by \$0.664 million mainly due to the catch up of the underspend on Asset Investment Program for the financial years from 2013-14 until 2015-16.
- 6) Other payments exceeded the budget by \$0.865 million partially due to the reclassification of expenses. In addition, as the fee for service revenue was over budget by \$0.886 million, some additional expenses incurred in response to the increasing revenue.
- 7) Grant and subsidies were over budget by \$1.015 million. \$0.667 million of which has been explained in note 4. The remaining \$0.348 million relates to the additional capital appropriation secured from Treasury during the 2016-17 Mid-Year Review process to address underfunding of statutory obligations. The capital was used to acquire an Ion trap triple quadrupole liquid chromatograph/mass spectrometer (IT-LCMS).

Significant variances between actual results for 2017 and 2016

- A) Revenue from the provision of services increased by \$1.912 million due to additional revenue from the new Perth Children's Hospital (\$1.544 million) and WA Police (\$0.579 million) to reflect full cost of provision of forensic service including full rent.
- B) Employee benefits increased by \$0.617 million. It is partially due to the NMI transaction and ChemCentre employed 20 FTE ex NMI staff from 1 May 2017. In addition, there was 1.5% salary increase for all staff as per the General Agreement and the level increment where staff are yet to reach the highest level within their position.
- C) Other expenses increased by \$0.756 million mainly due to the increased spending on consultancy for strategy and R&D projects.
- D) Property, plant and equipment increased by \$1.193 million due to \$2.099 million tangible assets that were acquired, compared to the disposal and depreciation expense of \$0.906 million.
- E) The non-current sinking fund increased by \$0.311 million due to the \$0.255 million contribution made to the sinking fund as per the lease agreement and \$0.056 million interest received on it.
- F) Cash receipts for the provision of services increased by \$2.746 million, partially due to higher revenue than 2015-16. In addition, more receivables were paid in 2016-17 than in 2015-16.
- G) Cash payments for non-current assets increased by \$1.147 million mainly due to increased spending on Asset Investment Program for 2016-17 (\$1.988 million) compared to 2015-16 (\$0.841 million) offset by unpaid asset invoices as at 30 June 2017.

FINANCIAL STATEMENTS

Notes to the Financial Statements For the year ended 30 June 2017 continued

31. Financial Instruments Disclosures

(a) Financial Risk Management Objectives and Policies

Financial instruments held by ChemCentre are cash and cash equivalents, Treasurer's advances and receivables and payables. ChemCentre has limited exposure to financial risks. ChemCentre's overall risk management program focuses on managing the risks identified below.

Credit risk

Credit risk arises when there is the possibility of ChemCentre's receivables defaulting on their contractual obligations resulting in financial loss to ChemCentre. ChemCentre measures credit risk on a fair value basis and monitors risk on a regular basis.

The maximum exposure to credit risk at balance sheet date in relation to each class of recognised financial assets is the gross carrying amount of those assets inclusive of any provisions for impairment. ChemCentre trades only with recognised, creditworthy third parties. ChemCentre has policies in place to ensure that sales of products and services are made to customers with an appropriate credit history. In addition, receivable balances are monitored on an ongoing basis with the result that ChemCentre's exposure to bad debts is minimal. There are no significant concentrations of credit risk.

Provision for impairment of financial assets is calculated based on objective evidence such as observable data indicating changes in client credit ratings. For financial assets that are either past due or impaired, refer to Note 16 'Receivables'.

Liquidity risk

ChemCentre is exposed to liquidity risk through its trading in the normal course of business. Liquidity risk arises when ChemCentre is unable to meet its financial obligations as they fall due.

ChemCentre has appropriate procedures to manage cash flows by monitoring forecast cash flows to ensure that sufficient funds are available to meet its commitments.

Market Risk

ChemCentre has no exposure to market risk

(b) Categories of Financial Instruments

In addition to cash and cash equivalents, the carrying amounts of each of the following categories of financial assets and financial liabilities at the balance sheet date are as follows:

FINANCIAL STATEMENTS

Notes to the Financial Statements For the year ended 30 June 2017 continued

31. Categories of financial instruments

Financial Assets

Cash and cash equivalents

Loans and receivables

Financial Liabilities

Financial liabilities measured at amortised cost^(a)

(a) The amount of financial liabilities measured at amortised cost excludes GST payable to the ATO (statutory receivable/payable).

Interest Rate Risk

ChemCentre does not hold any interest bearing deposits or pay interest on any loans. Therefore there is no interest rate risk.

Fair values

All financial assets and liabilities recognised in the balance sheet, whether they are carried at cost or fair value, are recognised at amounts that represent a reasonable approximation of fair value unless otherwise stated in the applicable notes.

2017	2016
\$'000	\$'000
1,903	1,867
2,655	2,111
1,271	704

FINANCIAL STATEMENTS

Notes to the Financial Statements For the year ended 30 June 2017 continued

	2017 \$'000	2016 \$'000
32. Taxation Equivalent		
(a) Income tax expense		
Current income tax	-	(300)
Deferred tax	45	36
Prior year under/(over) provision	-	-
Net current and deferred tax transferred to Income Statement	45	(264)
(b) Reconciliation of income tax expense		
Profit from continuing operations before income tax expense	(529)	(741)
Tax equivalent at the Australian tax rate of 30%	(159)	(222)
Tax effect of amounts which are not deductible/(taxable) in calculating taxable income:		
Tax loss not to be recognised	192	233
Unpaid superannuation (SGC)	11	24
Entertainment	1	1
Prior year over provision	-	(300)
	45	(264)
(c) Current tax liability		
Opening balance as at 1 July 2016	-	(300)
Prior year under/(over) provision	-	300
Closing balance as at 30 June 2017	-	-

FINANCIAL STATEMENTS

Notes to the Financial Statements For the year ended 30 June 2017 continued

	30-Jun-17	Income Tax (expense)/ benefit	30-Jun-16
	\$'000	\$'000	\$'000
(d) Deferred tax assets			
Provision for doubtful debts	4	(2)	6
Accrued expenses	18	(12)	30
Provision for employee entitlements	998	(32)	1,030
	1,020	(46)	1,066
Deferred tax liabilities			
Prepayment	-	1	(1)
	-	1	(1)
Net deferred tax balance	1,020	(45)	1,065
(e) Deferred tax assets not recognised			
Deferred tax assets have not been recognised in relation to the following matters:			
Non-refundable carry forward R&D tax offsets	703		703
Carried forward tax losses	1,215		1,023
	1,918		1,726

FINANCIAL STATEMENTS

Notes to the Financial Statements For the year ended 30 June 2017 continued

33. Compensation of Key Management Personnel

ChemCentre has determined that key management personnel include Ministers, board members, and, senior officers of ChemCentre. However, ChemCentre is not obligated to compensate Ministers and therefore disclosures in relation to Minister's compensation may be found in the *Annual Report on State Finances*:

Compensation of members of the accountable authority

The number of members of the accountable authority, whose total of fees, salaries, superannuation, non-monetary benefits and other benefits for the financial year.

Compensation Band (\$)

	2017	2016
1 – 10,000	-	1
10,001 – 20,000	5	5
20,001 – 30,000	1	1
30,001 – 40,000	1	1
	\$'000	\$'000
Short term employee benefit	135	139
Post employment benefits	13	13
Other long term benefits	-	-
Termination benefits	-	-
Total compensation of members of the accountable authority	\$148	\$152

Compensation of Senior Officers

The number of senior officers, other than senior officers reported as members of the accountable authority, whose total fees, salaries, superannuation, non-monetary benefits and other benefits for the financial year.

Compensation Band (\$)

160,001 – 170,000	-	1
170,001 – 180,000	-	-
180,001 – 190,000	1	1
190,001 – 200,000	1	1
201,001 – 210,000	2	1
210,001 – 220,000	-	-
220,001 – 230,000	-	-

FINANCIAL STATEMENTS

Notes to the Financial Statements For the year ended 30 June 2017 continued

	2017	2016
230,001 - 240,000	-	-
240,001 - 250,000	1	1
	\$'000	\$'000
Short term employee benefits	1,066	1,003
Post employment benefits	118	125
Other long term benefits	(44)	(122)
Termination benefits	-	-
Total compensation of senior officers	\$1,040	\$1,006
The superannuation included here represents the superannuation expense incurred by ChemCentre in respect of senior officers other than senior officers reported as members of the accountable authority.		
No senior officers are members of the Pension Scheme.		
34. Remuneration of auditor		
Remuneration payable to the Auditor General for the financial year is as follows:		
Auditing the accounts, financial statements and performance indicators		
The expense is included at note 14 'Other expenses'.		
	48	47
35. Related bodies		
There are no related bodies.		
36. Affiliated bodies		
There are no affiliated bodies.		
37. Special purpose accounts		
There are no special purpose accounts.		
38. Supplementary financial information		
Write-Offs	-	-
There was no public property written off by ChemCentre during the financial year		
Losses Through Theft, Defaults and Other Causes	-	-
Losses of public money and public and other property through theft or default amounts recovered		
Gifts of public property	-	-
Gifts of public property provided by ChemCentre		

FINANCIAL STATEMENTS

Notes to the Financial Statements For the year ended 30 June 2017 continued

39. Schedule of Income and Expenses by Service

	Service 1 Scientific Information and Advice 2016	Service 2 Research and Development 2016	Service 3 Emergency Response Management 2016	Total 2016
	\$'000	\$'000	\$'000	\$'000
INCOME				
Provision of services	12,838	1,188	1,894	15,920
Interest revenue	32	-	-	32
Other income	11	-	-	11
Total income	12,881	1,188	1,894	15,963
EXPENSES				
Employee benefits expense	10,156	940	1,498	12,594
Supplies and services	1,496	-	-	1,496
Depreciation and amortisation expense	1,289	-	-	1,289
Accommodation expenses	5,770	-	-	5,770
Other expenses	2,716	248	396	3,360
Total expenses	21,427	1,188	1,894	24,509
Profit/(loss) before grants and subsidies from State Government	(8,546)	-	-	(8,546)
Net appropriation from State Government	7,805	-	-	7,805
Profit/(loss) after net appropriation from State Government	(741)	-	-	(741)
Profit/(loss) before income tax equivalents expense	(741)	-	-	(741)
Income tax equivalent benefit/(expense)	264	-	-	264
Profit/(loss) for the year	(477)	-	-	(477)

FINANCIAL STATEMENTS

Notes to the Financial Statements For the year ended 30 June 2017 continued

39. Schedule of Income and Expenses by Service

	Service 1 Scientific Information and Advice 2016	Service 2 Research and Development 2016	Service 3 Emergency Response Management 2016	Total 2016
	\$'000	\$'000	\$'000	\$'000
INCOME				
Provision of services	13,871	1,615	2,346	17,832
Interest revenue	55	-	-	55
Other income	12	-	-	12
Total income	13,938	1,615	2,346	17,899
EXPENSES				
Employee benefits expense	10,391	1,210	1,757	13,358
Supplies and services	1,514	-	-	1,514
Depreciation and amortisation expense	1,253	-	-	1,253
Accommodation expenses	5,711	-	-	5,711
Other expenses	2,975	405	589	3,969
Total expenses	21,844	1,615	2,346	25,805
Profit/(loss) before grants and subsidies from State Government	(7,906)	-	-	(7,906)
Net appropriation from State Government	7,377	-	-	7,377
Profit/(loss) after Net Appropriation from State Government	(529)	-	-	(529)
Profit/(loss) before income tax equivalents expense	(529)	-	-	(529)
Income tax equivalent benefit/(expense)	(45)	-	-	(45)
Profit/(loss) for the year	(574)	-	-	(574)

40. Contingent liability & contingent asset

As at the date of this report there were no contingent liabilities or contingent assets.

Key Performance Indicators

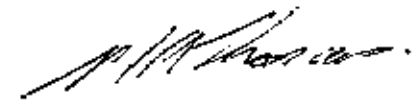
Certification of Key Performance Indicators

We hereby certify that the performance indicators are based on proper records, are relevant and appropriate for assisting users to assess ChemCentre's performance, and fairly represent the performance of ChemCentre for the year ended 30 June 2016.



David Blyth
Chair of Finance & Growth Committee
Member of Governing Board

Date: 29 August 2017



Mark Thomas
Chair of Risk Committee
Member of Governing Board

Date: 29 August 2017

Government Goal

Social and environmental responsibility

Ensuring that economic activity is managed in a socially and environmentally responsible manner for the long term benefit of the State.

Agency Level Government Desired Outcome:

Quality independent scientific advice, research and development, and an emergency response capability that supports government and the wider community.

KEY PERFORMANCE INDICATORS

Key Effectiveness Indicators by Output

Service 1: Commercial Scientific Information and Advice

Development and delivery of quality scientific information and advice, including commercial services, to government, industry and the community.

Key Effectiveness Indicators

Client Satisfaction: as determined by an annual survey of clients invited from all invoices sent out in the previous financial year above \$1,000 in value. The survey covered 290 clients with 28.3% response rate (n=82).

The client satisfaction percentage is a relevant measure because it demonstrates the quality of ChemCentre's scientific information and advice through clients' responses to questions on quality, timeliness and overall satisfaction with ChemCentre's service. The actual client satisfaction for 2016-17 was taken at a 95% confidence level and a sampling error of $\pm 9.18\%$.

Proficiency Rating for the Accredited Services: this includes performance in qualitative and quantitative trials undertaken during the relevant year, whether internally or externally sourced and is determined by the percentage of samples satisfactorily meeting the evaluation criteria of the proficiency trial provider.

The Proficiency rating is a relevant measure as it demonstrates the quality of testing undertaken by ChemCentre. As ChemCentre plays a critical role in supporting the State justice and policing systems, it requires that the results of testing are dependable and high quality.

2013-14	2014-15	2015-16	2016-17	2016-17
Actual	Actual	Actual	Actual	Target
86%	87%	85%	84%	80%
93%	90%	92%	92%	95%

Service 2: Quality Research and Development

Delivery of quality project-based developed knowledge, know-how and/or intellectual property relevant to state development, public health and safety, or delivery of ChemCentre's other services.

Key Effectiveness Indicators

Aggregate value of ChemCentre Components: as determined by the ratio of R&D sold or for which a grant has been received to internal R&D amount spent.

The ratio of R&D sold or for which a grant has been received, to internal R&D amount spent, is relevant because it demonstrates to ChemCentre's management the spending of appropriations by maintaining or bettering the budget ratio of in house spending to external funding.

Client Satisfaction: as determined by an annual survey of clients invited from R&D projects conducted over the previous financial year. 18 responses were collected from 20 survey invitations.

The client satisfaction percentage is a relevant measure because it demonstrates the quality of ChemCentre's R&D, through clients' responses to questions on quality, timeliness and overall satisfaction with ChemCentre's service across major, ongoing projects. The actual client satisfaction for 2016-17 was taken at a 95% confidence level and a sampling error of $7.49\pm\%$.

2013-14	2014-15	2015-16	2016-17	2016-17
Actual	Actual	Actual	Actual	Target
39/61	47/53	46/54	29/71	60/40
84%	83%	80%	81%	80%

KEY PERFORMANCE INDICATORS

Service 3: Emergency Response Management

Specialist technical advice and support to government and industry in managing the risks arising from unmanaged chemical-biological-radiological releases.

Key Effectiveness Indicator

Average Resolution Time for all emergency response incidents attended:

extracted from the response team log book

2013-14	2014-15	2015-16	2016-17	2016-17
Actual	Actual	Actual	Actual	Target
2.3 hours	1.9 hours	2.4 hours	3.3 hours	4 hours

The average response and resolution time is relevant because the quicker ChemCentre responds to and resolves a chemical-biological-radiological emergency, the lower the risk to the community.

NOTES

Service 1: Commercial Scientific Information and Advice

The client satisfaction of 84%, while down 1% from the previous year, remains above the target of 80%. This is a pleasing result and demonstrates ChemCentre's commitment to providing quality and timely commercial solutions. The proficiency rating is in line with previous year and slightly below target but is still considered an acceptable result because it does not reflect a decline in quality.

Service 2: Quality Research and Development

The ratio of R&D sales to in-house contributions is lower than the previous year and below target. Where external grant funding is anticipated for the project, the minimum financial threshold is 40% from ChemCentre contribution and 60% from the funding body. During the financial year 2016-17, the method of recording CSO activities has changed to reflect the full cost of delivering statutory obligations (as defined in the Act). It now captures all expenses associated with research and development. This has resulted in a lower ratio than reported in previous years. The ratio would have been 53/47 if the CSO for 2016-17 were recorded on same base as 2015-16. On this basis, it indicates an improved performance over the previous year.

The Client Satisfaction rate for R&D achieved the 81%, was slightly higher than the previous year's 80%.

Service 3: Emergency Response Management

The 2017 average response and resolution time of 3.3 hours is higher than the previous year however is better than the target; it is therefore an acceptable Outcome. Every year the mix and location of incidents is varied and in 2016-17 less incidents were attended and the complexity of the cases reported was higher than last financial year. The incidents such as picric acid handling at Sir Charles Gardiner Hospital required longer response time due to its explosive nature and higher level of complexity. Incidents that can be solved by telephone advice usually have a lower level of complexity which will reduce the average response time.

KEY PERFORMANCE INDICATORS

Key Efficiency Indicators by Service

Service 1: Commercial Scientific Information and Advice^(a)

Development and delivery of scientific information and advice, including commercial services, to government, industry and the community.

	2013-14	2014-15	2015-16	2016-17	2016-17
	Actual	Actual	Actual	Actual	Target
Key Efficiency Indicator					
Total cost for service	\$21,223,000	\$21,314,000	\$21,427,000	\$21,844,000	\$21,742,000
Billable hours: <i>as calculated for the average staffing over the year</i>	100,833 hr	100,366 hr	96,941 hr	99,694 hr	93,720 hr
Average cost per chargeable hour ^(a)	\$210	\$211	\$221	\$219	\$232

Service 2: Research and Development^{(a)(b)}

Project-based development of knowledge, know-how and/or intellectual property relevant to state development, public health and safety, or delivery of ChemCentre's other services.

	2013-14	2014-15	2015-16	2016-17	2016-17
	Actual	Actual	Actual	Actual	Target
Key Efficiency Indicator					
Total cost for service	\$1,212,000	\$1,267,000	\$1,188,000	\$1,615,000	\$1,594,000
Billable hours: <i>as calculated for the average staffing over the year</i>	4,432 hr	5,240 hr	5,278 hr	6,945 hr	6,600 hr
Average cost per chargeable hour ^(a)	\$274	\$242	\$225	\$233	\$242

KEY PERFORMANCE INDICATORS

Service 3: Emergency Response Management^{(a)(c)}

Specialist technical advice and support to government and industry in managing the risks arising from unmanaged chemical-biological-radiological releases.

	2013-14	2014-15	2015-16	2016-17	2016-17
	Actual	Actual	Actual	Actual	Target
Key Efficiency Indicator					
Total cost for service	\$1,815,000	\$1,733,000	\$1,894,000	\$2,346,000	\$1,635,000
Billable hours: <i>as calculated for the average staffing over the year</i>	7,121 hr	7,372 hr	6,508 hr	7,440 hr	5,500 hr
Average cost per chargeable hour ^(c)	\$255	\$235	\$291	\$315	\$297

NOTES

- (a) Service 1 average cost per billable hour is lower than the budget and the previous year. Chargeable hours for service 2 and 3 are the actual hours recorded and extracted from laboratory records and charged against those services. The chargeable hours for service 1 are the residual value after subtracting the billable hours for service 2 and 3 from the total available productive hours. The lower cost per billable hour is the result of economies of scale where a greater number analysis was required.
- (b) Service 2 average cost per billable hour is higher than the budget and previous year as the cost and human resources to deliver the service are more accurately recorded which has resulted in cost and billing hours for the year.
- (c) Service 3 average cost per billable hour is higher than the previous year and the budget. This is mainly attributable to the higher cost for service, although offset by the higher billable hours. The higher cost for 2016-17 is the result of better cost recording practices which captures the cost of maintaining the full emergency response capacity such as training.

Other Financial Disclosures

Ministerial Directives [TI 903(12)]

No Ministerial Directives were received during the financial year.

Pricing policies of services provided

ChemCentre has discretion over pricing for goods and services rendered.

Employment and Industrial Relations

Staff Profile

	2016-17	2015-16
Full-time permanent	80	80
Full-time contract	34	31
Part-time measured on a FTE basis	7	6
	121	117

Staffing policies and staff development

ChemCentre is committed to developing its workforce capability and continually improving its culture and engagement. Our Workforce and Diversity Plan has focussed on five key initiatives to address and reposition ChemCentre for the organisation's overall success.

During the reporting year, ChemCentre undertook an operation management review to ensure there is appropriate capability to achieve our priority strategic plan deliverables. ChemCentre has also been working on strategies to build staff engagement based on

the findings of the 2012 and 2016 Public Sector Commission's (PSC) Employee Perception Surveys and ChemCentre's 2015 and 2016 Employee Engagement Surveys. Our intention is to build even greater levels of leadership commitment to further improve staff engagement.

In May 2017, a new commercial business opportunity was integrated into ChemCentre. Twenty (20) staff were engaged from the WA branch of the Commonwealth Government's National Measurement Institute on fixed term contracts. All appointments were compliant with the Commissioner's Instructions and Human Resource Management (HRM) Standards.

ChemCentre continuously reviews and updates its policies and procedures to ensure compliance with legislation and the Public Sector Commissioner's Instructions.

More than 8% of direct salary costs were invested in training and professional development this financial year.

Workers' Compensation

One new claim was made this financial year of a minor nature and involving medical costs but no lost time. Human Resources follow up any accident report to assist with lodging workers' compensation claims.

Governance Disclosures

Contracts with Senior Officers

At the date of reporting, other than normal contracts of employment of service, no Senior Officers, or firms of which Senior Officers are members, or entities in which Senior Officers have substantial interests had any interests in existing or proposed contracts with ChemCentre and Senior Officers.

Unauthorised Use of Credit Cards

Officers of ChemCentre hold corporate credit cards where their functions warrant usage of this facility. Each cardholder is reminded of their obligations annually under ChemCentre's credit card policy.

During the year, there was one occasion that a corporate credit card was used for personal purposes to the value of \$426. The Chief Finance Officer noted funds were refunded to ChemCentre within 5 working days.

Aggregate amount of personal use expenditure for the reporting year

Aggregate amount of personal use expenditure settled by the due date (within 5 working days)

Aggregate amount of personal use expenditure settled after the period (after 5 working days)

Aggregate amount of personal use expenditure outstanding at balance date

2017
\$
426
426
-
-

Insurance premiums paid to indemnify members of the Board

An insurance policy has been taken out to indemnify members of the Board against any liability incurred under sections 13 or 14 of the Statutory Corporations (Liability of Directors) Act 1996. The amount of the insurance premium paid for 2016/2017 was \$4,824 compared with \$4,824 in 2015/2016.

GOVERNANCE DISCLOSURES

Board and committee remuneration

Members were paid remuneration as determined by the Minister for Science.

ChemCentre Board				
Position	Name	Type of remuneration	Period of membership	Gross/actual remuneration
Chair	Denise Goldsworthy	Annual fee	365 days	\$35,399
Deputy Chair	Lianne Cretney-Barnes	Annual fee	365 days	\$28,354
Member	John Farrow	Annual fee	365 days	\$17,765
Member	Bruce Brennan	Annual fee	365 days	\$17,765
Member	David Blyth	Annual fee	365 days	\$17,765
Member	Mark Thomas	Annual fee	365 days	\$17,765
Member	Wendy Malcolm	Annual fee	365 days	\$13,324
Total				\$148,137

Other Legal Requirements

Compliance with Public Sector Standards and Ethical Codes

In accordance with s31(1) of the *Public Sector Management Act 1994*, ChemCentre has ensured compliance with the Public Sector standards, the *WA Code of Ethics* by the following actions:

1. Reviewing 28% of all ChemCentre corporate and human resource policies to ensure compliance with current government requirements;
2. Ensuring ChemCentre's code of conduct supported the WA Code of Ethics and the public sector standards;
3. Raised awareness of employee responsibilities in the area of ethics and public sector standards through newsletters, induction sessions and the intranet.

Using the actions listed above, the following results have been achieved.

Compliance area	Compliance issues
Public Sector standards	1 breach claim
WA code of ethics	0 reports of non-compliance
ChemCentre code of conduct	0 reports of non-compliance

Electoral Act 1907 section 175ZE

In compliance with section 175ZE of the *Electoral Act 1907*, ChemCentre is required to report on expenditure incurred during the financial year in relation to advertising agencies, market research organisations, polling organisations, direct mail organisations and media advertising organisations.

Total expenditure for 2016/17 was zero.

Expenditure	Total	Expenditure	Amount
Advertising agencies	Nil		Nil
Marketing research organisations	Nil		Nil
Polling organisations	Nil		Nil
Direct mail organisations	Nil		Nil
Media advertising organisations	Nil		Nil

OTHER LEGAL REQUIREMENTS

Annual Estimates

ChemCentre complied with the relevant sections of the *Financial Management Act 2006* by meeting the requirements and targets for submitting annual estimates.

Section 40 of the *Financial Management Act 2006* provides for the accountable authority of a statutory authority to submit annual estimates of the annual operations of the statutory authority to the Minister for approval.

The estimates are to be prepared and submitted to the Minister at such times as determined by the Treasurer, or no later than three months before the commencement of the next financial year.

Statutory authorities not funded as a separate Division of the Consolidated Account Expenditure Estimates should include the approved annual estimates for the current financial year in the annual report of the preceding financial year submitted to the responsible Minister under the provisions of section 61 of the Act.

Disability Access and Inclusion Plan Outcomes

ChemCentre's Disability and Inclusion Plan (DAIP) satisfies the requirements of the *Disability Services Act 1993*.

ChemCentre continues to commit to ensuring that people with disability, their families and carers are not denied access to its services and programs. ChemCentre continues to promote DAIP to all staff through our newsletters and to the community through the link on our website and in social media.

Our current initiatives address the following desired DAIP outcomes:

1. People with disabilities have the same opportunities as other people to access the services of, and any events organised by, ChemCentre.
2. People with disabilities have the same opportunities as other people to access the buildings and other facilities of ChemCentre.
3. People with disabilities can request to receive information from ChemCentre in a format that will enable them to access the information as readily as other people are able to access it.

4. People with disabilities receive the same level and quality of service from the staff of ChemCentre as other people receive.
5. People with disabilities have the same opportunities as other people to make complaints to ChemCentre.
6. People with disabilities have the same opportunities as other people to participate in any public consultation by ChemCentre.
7. People with disabilities have the same opportunities as other people to access and maintain employment at ChemCentre.

Recordkeeping Plan

In compliance with the *State Records Act 2000*, ChemCentre has an approved recordkeeping plan.

1. Efficiency and Effectiveness
To improve ChemCentre's recordkeeping system, new staff have been given training sessions in using the document management system.
2. Training
93% of ChemCentre staff has completed the online training program for records awareness.
3. An evaluation of the efficiency and effectiveness of recordkeeping training is assessed each financial year.
4. Induction Program
ChemCentre has mandatory records and document management training that all employees attend as part of their induction. In addition, new staff members are required to complete the online training program for records awareness and attend a small group or a one on one training session on the Records Management System. Pamphlets covering a range of recordkeeping topics are provided to all new employees as part of the induction package.

OTHER LEGAL REQUIREMENTS

Occupational Safety, Health and Injury Management

ChemCentre is committed to providing a workplace that ensures the safety and health of all staff and visitors and recognises the benefit of preventing incidents as much as is practicable for the welfare of the individual and to avoid needless costs.

A robust Occupational Safety and Health Management System (OSHMS) exists to assist the workplace in achieving its safety objectives. All new employees receive an intensive safety induction. An ongoing program of safety training is carried out.

Managers and supervisors are encouraged to attend safety training each year designed to help meet OSH obligations in the workplace.

The Occupational Safety and Health Committee, including the Chief Executive Officer, Safety Representatives nominated by employees and an executive appointed Safety Officer, offer a formal framework for communication and consultation of safety issues in the organisation. The Committee members and Safety Officer are accessible and effectively utilised by both management and employees in the discussion and resolution of occupational safety and health issues. The Occupational Safety and Health Committee meets monthly to discuss and resolve occupational issues, review hazard and incident reports and

review progress against the Occupational Safety and Health Management Plan and other safety items of concern.

During the reporting year ChemCentre attained JAS-ANZ accreditation in AS/NZS 4801:2001 – OHS&S Management System. ChemCentre was assessed as complying with the management system standard requirements by Best Practice Certification Pty Ltd. The main drivers were the desire to attract more work from new and larger clients; a push from current clients and organisations that ChemCentre works with, wanting to be assured of a high standard of safety; and for companies using JAS-ANZ accredited certification and inspection services. The accreditation also promises to increase the likelihood of smooth access to overseas markets and will hopefully assist in promoting ChemCentre's reputation overseas.

In accordance with the *Workers' Compensation and Injury Management Act 1981*, ChemCentre has a documented injury management system which is readily available to all employees through the intranet. A return to work program is available.

ChemCentre's Occupational Safety and Health Management Plan is monitored internally on a monthly basis and outcomes reported to the Board.

Annual performance for 2016/17 against the following targets:

Indicator	2015-16	2016-17	Target 2016-17	Result
Number of fatalities	0	0	Zero (0)	Target achieved.
Lost time injury/disease (LTI/D) incidence rate	0 days	0.5 days	Zero (0) or 10% reduction on previous year	Target not achieved.
Lost time injury severity rate	0.0	0.0	Zero (0) or 10% improvement on previous year	Target achieved. 0 (Zero)
Percentage of injured workers returned to work within (i) 13 weeks and (ii) 26 weeks	100%	100%	Greater than or equal to 80% return to work within 26 weeks	Target achieved.
Percentage of managers and supervisors trained in occupational safety, health and injury management responsibilities	79%	76%	Greater than or equal to 80%	Target not achieved.

Publications and Presentations

Research Papers

Boyce, C., Watson, M., Lazidis, G., Reeve, S., **Dods, K.**, Simmer, K. and McLeod, G. (2016). Preterm human milk composition: a systematic literature review. *British Journal of Nutrition*, 116(06), pp.1033–1045.

Donovan A.R. and **Crisp H.**, “By Products Produced During the Synthesis of Methamphetamine from Over-the-Counter Cold and Flu Medication with Lithium-Ammonia” *Journal of the Clandestine Laboratory Investigating Chemists Association* **26** (3) (2016) 23–36.

Donovan A.R. “TFMPP: An Unusual Component of a Lithium-Ammonia Clan Lab” *Journal of the Clandestine Laboratory Investigating Chemists Association* **27** (2) (2017) 9–11.

Forbes, G. and **Dods, K.** (2016). Gluten content of imported gluten-free foods: national and international implications. *The Medical Journal of Australia*, 205(7), p.316.

Maric, M., van Bronswijk, W., **Pitts, K.** and Lewis, S. (2016). Characterisation and classification of automotive clear coats with Raman spectroscopy and chemometrics for forensic purposes. *Journal of Raman Spectroscopy*, 47(8), pp.948–955.

Moss, D. M., **Brown D. H.**, **Douglas, B. J.**, “An acetyl fentanyl death in Western Australia” *Australian Journal of Forensic Sciences*, 2017, DOI: 10.1080/00450618.2017.1315836

Popot, M., Ho, E., Stojiljkovic, N., Bagilet, F., Remy, P., Maciejewski, P., Loup, B., Chan, G., Hargrave, S., Arthur, R., **Russo, C.**, White, J., Hincks, P., Pearce, C., Ganio, G., Zahra, P., Batty, D., Jarrett, M., Brooks, L., Prescott, L., Bailly-Chouriberry, L., Bonnaire, Y. and Wan, T. (2017). Interlaboratory trial for the measurement of total cobalt in equine urine and plasma by ICP-MS. *Drug Testing and Analysis*.

Sharma R., Bell R.W and Wong M.T.F (2017) Dissolved reactive phosphorus played a limited role in phosphorus transport via runoff, throughflow and leaching on contrasting cropping soils from southwest Australia, *Science of Total Environment*. 577 (33–44).

Sharma R. and V. S. R. Kambala (2017) Characterisation of attapulgite and its comparison with diatomaceous earth on the basis of physicochemical properties and sorption behaviour of P and NH_4^+ , *Asian Journal of Plant and Soil Sciences*. 1(1): 27–34.

PUBLICATIONS AND PRESENTATIONS

Book Chapter and Technical Reports

Allen D and **Black S.** June 2017. “Technical Review of: The TPG/Place Match Report titled Estimates of Adverse Dust-Associated Economic and Social Consequences of the West End of Port Hedland in Western Australia, 9 March 2017”. Report for Pilbara Port Authority, WA. 9 pages.

Fleming, D., D’Angelo, A. M., **Wilkinson, S.**, Fleming, D. ‘Adsorbed non-polar organic species on inhalable γ -alumina particles,’ Air quality and Climate Change Journal, Volume 51, No. 1, February 2017.

Conference Posters

Cooper L., “Can the NEPM Health Screening Levels be applied to weathered hydrocarbons.” ALGA Ecoforum, 25–26 October 2017, Fremantle, Australia.

Oosthuizen F., Brown D., Keane R., “Determination of 25H-NBOMe in post-mortem blood by solid supported liquid extraction (SLE) following a fatal overdose: Application to other drugs of abuse.” 54th Annual meeting of the International Association of Forensic Toxicologists (TIAFT), 28 August – 1 September 2016, Brisbane, Australia.

Swinny, E.E., ‘ChemCentre – Managing Chemical Hazards to Protect the Community’, Hazchem Conference, 7–8 June 2017, Perth.

Conference Presentations

Black S. August 2016. “AMD Activity at ChemCentre”. Invited to present on Acid and Metalliferous Drainage (AMD) related R&D projects at the INAP (International Network for Acid Prevention) Australian Network Meeting. Perth, Australia.

Black S. February 2017. “Leaching Environmental Impact Assessment Tools (LEAF) for Industry and Regulators Managing Waste Challenges”. LEAF Workshop: Introducing the Leaching Environmental Impact Assessment Framework Tools to WA. ChemCentre and MRIWA Perth, Australia.

Black S., Price B, Allen D, Sharma R and Rothnie N. March 2017. “Leaching Environmental Impact Assessment Tools (LEAF) for Industry and Regulators Managing Waste Challenges”. Invited to present at the International Seminar & Workshop for Environmental Hazardous Impact Assessment of Recycling Resources. National Institute of Environmental Research (NIER) Seoul, South Korea.

Black S., Mullins B, Reid A, Spearing S and Musk B. April 2017. “Nano Diesel Particulate Matter in Underground Hard Rock Mines”. Invited to present at the WA Department of Mines and Petroleum Mine Safety Inspectors Forum. Perth, Australia.

Brown D., Sakrajda P., Collins-Brown L., Douglas, B., Oosthuizen F., “Synthetic cannabinoids in the living and the dead: identification, quantification and stability of synthetic cannabinoids in coronial and sobriety casework.” 54th Annual meeting of the International Association of Forensic Toxicologists (TIAFT), 28 August – 1 September 2016, Brisbane, Australia.

Carter, R.A.A., Joll, C.A., Allard, S., Heitz, A., Croue, J-P., **West, N.**, 2017. “500 days of swimmers: variability of the chemical water quality of swimming pools from the beginning.” 7th International Swimming Pool and Spa Conference, Presentation.

Cooper L., ‘Hydrocarbon case studies: anomalous results and false positives’, SETAC 2016.

Crisp, H., ‘Clandestine Laboratories in WA’, Specialised Equipment Tender Training Course, DFES Training Academy, Forrestfield, 14 June 2017.

Crisp, H., ‘Encounters with Explosives at WA Clandestine Laboratories’, 2017 NSW Police Clandestine Laboratory Interagency Workshop, Manly NSW, 19 June 2017.

Crisp, H., ‘Clandestine Laboratories and Manufacture of Methylamphetamine in WA’, Clandestine Laboratory Training Seminar, Office of the Director of Public Prosecutions for WA, Perth, 30 June 2017.

Pitts, K., Clarke, R., Aspandiar, M. and **Coumbaros, J.** Forensic Analysis of Soils of the Swan Coastal Plain using Raman Spectroscopy and X-ray Diffraction, Chemical Criminalistics, ANZFSS 2016, 22 September 2016.

PUBLICATIONS AND PRESENTATIONS

Van der Pal, K. J., Sauzier G., Maric, M., Bronswijk, W., **Pitts, K.**, Lewis, S. W. 'Environmental Degradation and its effect on the analysis of automotive clear coats using infrared spectroscopy, Keynote- Chemical Criminalistics, ANZFSS 2016, 21 September 2016.

Lecture Presentations

Collins-Brown, L. 'Chemical, Biological and Radiological (CBR) Threats', WA Police Academy, Joondalup, 4 April 2017.

Crisp, H. 'Ammonia Incident', OCS Clandestine Laboratory Safety & Investigation Course, WA Police Academy, Joondalup, 2 April 2017.

Crisp, H. 'Role of the Chemist', OCS Clandestine Laboratory Safety & Investigation Course, WA Police Academy, Joondalup, 3 April 2017.

Crisp, H. 'Dimethyltryptamine Manufacture', OCS Clandestine Laboratory Safety & Investigation Course, WA Police Academy, Joondalup, 3 April 2017.

Crisp, H. 'Basic Clan Lab Chemistry', OCS Clandestine Laboratory Safety & Investigation Course, WA Police Academy, Joondalup, 3 April 2017.

Crisp, H. 'Parr Bombs', OCS Clandestine Laboratory Safety & Investigation Course, WA Police Academy, Joondalup, April 3, 2017.

Crisp, H. 'Clan labs and TATP', OCS Clandestine Laboratory Safety & Investigation Course, WA Police Academy, Joondalup, 3 April 2017.

Crisp, H. 'Overseas Clandestine Laboratories', OCS Clandestine Laboratory Safety & Investigation Course, WA Police Academy, Joondalup, 3 April 2017.

Dunsmore, R. 'Adverse Health Effects in Clan Lab Investigations', OCS Clandestine Laboratory Safety & Investigation Course, WA Police Academy, Joondalup, 2 April 2017.

Edmunds, R. 'MDMA Manufacture' OCS Clandestine Laboratory Safety & Investigation Course, WA Police Academy, Joondalup, 3 April 2017.

Edmunds, R. 'Methylamphetamine from other pseudoephedrine/ephedrine methods' OCS Clandestine Laboratory Safety & Investigation Course, WA Police Academy, Joondalup, 3 April 2017.

Edmunds, R. 'Manufacture of methylamphetamine from non-pseudoephedrine/ephedrine methods' OCS Clandestine Laboratory Safety & Investigation Course, WA Police Academy, Joondalup, 3 April 2017.

Edmunds, R. 'Manufacture of miscellaneous drugs' OCS Clandestine Laboratory Safety & Investigation Course, WA Police Academy, Joondalup, 3 April 2017.

Holman, A. 'The Nazi Method', OCS Clandestine Laboratory Safety & Investigation Course, WA Police Academy, Joondalup, 3 April 2017.

McGann, 'Clan lab OSH', OCS Clandestine Laboratory Safety & Investigation Course, WA Police Academy, Joondalup, 2 April 2017.

McGann, J. 'Clan Lab Health and Safety', OCS Clandestine Laboratory Safety & Investigation Course, WA Police Academy, Joondalup, 3 April 2017.

Muir, B., Downey, A., Palmer, J., Tan, F., 'ChemCentre Emergency Response, Special Equipment Tender Course', Department of Fire and Emergency Services, 16 July 2017.

Norman, K., 'Development of entry and sampling plans at HAZMAT incidents', ChemCentre Advanced HAZMAT Training Course, ChemCentre, 16 August 2016.

Norman, K., 'Selecting appropriate PPE', ChemCentre Advanced HAZMAT Training Course, ChemCentre, 13 September 2016.

Norman, K., 'Chemistry and physics of sulfur gases', ChemCentre Advanced HAZMAT Training Course, ChemCentre, 14 March 2017.

Norman, K., 'Chemistry and physics of ammonium nitrate', ChemCentre Advanced HAZMAT Training Course, ChemCentre, 28 March 2017.

Norman, K., 'Chemistry and physics of chlorine', ChemCentre Advanced HAZMAT Training Course, ChemCentre, 11 April 2017.

PUBLICATIONS AND PRESENTATIONS

Norman, K., 'Chemistry and physics of phosphine', ChemCentre Advanced HAZMAT Training Course, ChemCentre, 2 May 2017.

Norman, K., 'Generation of gases from common household chemicals', ChemCentre Advanced HAZMAT Training Course, ChemCentre, 2 May 2017.

Pitts, K., 'Physical Evidence', Crime Scene Investigation Course, Forensic Training and Development Unit, WA Police, 28 August 2016, 22 June 2017.

Pitts, K., 'Zombies, cars and Shoes: Case studies in Physical Evidence', Perth Science Festival, 13 August 2016.

Pitts, K., 'Women in STEM – Be inspired' seminar - Skills West Expo, 13 August 2016.

Pitts, K., '2016 RACI Bayliss Youth Lecture: Sacred Heart High School 50th Anniversary', Sacred Heart High, 18 August 2016.

Pitts, K., 'Forensic Chemistry: Past, Present and Future', STAWA Conference, Curtin University, 2 December 2016.

Pitts, K., '2017 International Day for Women and Girls in Science' Webinar, CSIRO, 13 February 2017.

Pitts, K., 'Soil and Mineralogy' Curtin University, FORS2000 Forensic Trace Evidence, 26 April 2017.

Pitts, K., 'Future Crime' ConSTAWA Conference Dinner, 12 May 2017.

Pitts, K., 'Zombies, Cars, Shoes and a Mattress: Case Studies in Physical Evidence' Curtin University FORS2000 Forensic Trace Evidence, 24 May 2017.

Pitts, K., 'Microscopy in Forensics', Murdoch University, Introduction to Forensics CHE1003, 26 May 2017.

Swinny, E.E., Norman, K., Hanbury, M., 'ChemCentre Emergency Response', Station Officers Course, Department of Fire and Emergency Services, 16 July 2016.

Swinny, E.E., Norman, K., 'ChemCentre Emergency Response', Special Equipment Tender Course, Department of Fire and Emergency Services, 29 July 2016.

Swinny, E. E., 'Sources of information at HAZMAT incidents', ChemCentre Advanced HAZMAT Training Course, ChemCentre, 8 November 2016.

Swinny, E. E., 'Chemical Equilibrium', ChemCentre Advanced HAZMAT Training Course, ChemCentre, 29 November 2016.

Swinny, E. E., 'Hydrogen Cyanide and Cyanides', ChemCentre Advanced HAZMAT Training Course, ChemCentre, 7 March 2017.

Swinny, E. E., Dunsmore, R., Davis, J., 'Chemistry and Physics of Ammonia', ChemCentre Advanced HAZMAT Training Course, ChemCentre, 21 March 2017.

Swinny, E. E., Norman, K., Davis, J., Thompson, J., Roach, G., Mitchell, J., 'Chemistry and Physics of Nitric Acid', ChemCentre Advanced HAZMAT Training Course, ChemCentre, 4 April 2017.

Swinny, E. E., Davis, J., Thompson, J., Roach, G., Mitchell, J., Hockridge, R., 'Industrial Chemical Reactors', ChemCentre Advanced HAZMAT Training Course, ChemCentre, 18 April 2017.

Wilkinson, S., 'Sources of information and databases at HAZMAT incidents', ChemCentre Advanced HAZMAT Training Course, ChemCentre, 7 March 2017.